

URBAN DISTRICT OF REDDITCH.

ANNUAL REPORT

ON THE

Health and Sanitary Circumstances
of Redditch,

FOR THE YEAR 1902,

BY

JAMES STEVENSON, M.B., D.P.H.,

MEDICAL OFFICER OF HEALTH,

WITH THE

Annual Report of the Sanitary Inspector,

WILLIAM JAMESON,

(ASSOC. SAN. INST.)

REDDITCH :
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TO THE CHAIRMAN AND MEMBERS OF THE
REDDITCH URBAN DISTRICT COUNCIL.

GENTLEMEN—

I beg to present to you the Annual Report for 1902. Looking back on the year I think you have every reason to congratulate yourselves on the amount of Sanitary work effected, and on the low death-rate which has prevailed.

Before concluding I wish to express my thanks to you for your kindness and courtesy to me since my election, and to Mr. Perrins, surveyor, and Mr. Jameson, sanitary inspector, for the unfailing assistance which they have at all times rendered me.

I am, gentlemen,

Your obedient servant,

JAMES STEVENSON,

Medical Officer of Health.

February 12th, 1903.

Redditch Urban District Council.

REPORT OF THE MEDICAL OFFICER OF HEALTH FOR THE YEAR 1902.

Redditch is situated on the borderland of the Counties of Worcester and Warwick. It includes Redditch Parish and parts of Ipsley and Feckenham parishes. The district is on the Keuper marl, subsoil is also marl. Height above ordnance datum varies from 550 to 350 feet.

Inhabited Houses (1901), 2920; Ratable Value, £47,193 6s. 9d.; General District Rate—4s. 6d. in the £.

VITAL STATISTICS.

Birth Rate—29·2 per 1,000 inhabitants; Death Rate—13·2 per 1,000 inhabitants; Zymotic Death Rate—1·5 per 1,000 inhabitants; Infant Mortality—156 per 1,000 Births.

POPULATION.

The population at the Census of 1891 was 11,311, and according to the Census of 1901 had increased to 13,493. It is usual to calculate death-rates, etc., on the estimated population at the middle of the year. In June, 1902, the estimated population was 13,784.—Males, 6,305; Females, 7,479.

The number of persons per inhabited house is 4·6.

AREA.

The area of the Urban District is 1,023 statute acres, and the density of population, 13·4 per acre.

BIRTHS.

The births during the year totalled 403, of which 215 were males, and 188 females. This gives a rate of 29·2 per 1,000 inhabitants. In 1901, the birth-rate for Redditch was 30·8—that for the Administrative County of Worcester being 28·9. Of the total births, 4 or 0·9 per cent. were illegitimate.

DEATHS.

One hundred and eighty-three deaths were registered, equal to a rate of 13·2 per 1,000 inhabitants. Of the 183, 80 occurred in males and 103 in females.

The highest monthly death-rate occurred in December when 20 persons died, the lowest in November when only ten died. Three deaths of non-residents in the district occurred in the Smallwood Hospital; on the other hand two deaths of people belonging to this district occurred in the Bromsgrove and Alcester Union infirmaries, and one patient from Redditch died at the Isolation Hospital in Bromsgrove. On referring to Table IV. you will find that the diseases, which caused most deaths, during the year, were:—Whooping Cough, 10 deaths; Cancer and Malignant Disease, 12; Heart Disease, 17; Phthisis, 17; Bronchitis, 26.

Premature Birth and Congenital Debility accounted for 20 deaths out of a total of 63 in infants. The estimated death-rate for England and Wales (1902) is 16.3.

INFANT MORTALITY.

The Infant Mortality is the annual number of deaths under one year of age to every 1,000 births during the same year. It is regarded as a most reliable test of the Sanitary condition of a district. Sixty-three infants under one year of age died during the year, the Infant Mortality figure being 156. In 1901 it was 148, but the average for the previous ten years stands at 174. The large amount of mortality among infants has for years engaged your attention, and different opinions have been put forward from time to time as to the cause, or causes of such mortality.

All writers, however, agree that whatever causes may exist concurrently the chief cause is the neglect of infants in the early days and months of their lives—*i.e.* the want of proper feeding and care due to prejudice and inexperience of mothers.

Undoubtedly the “industrial conditions” in our town greatly aid this chief cause. The Census Return for 1901 shows that 43.3 per cent. of the married and widowed women in Redditch were engaged in daily occupations.

To show that this is an extremely high percentage let us compare it with other towns in the County. In Bromsgrove Urban (the next highest) the percentage was 26; in Worcester 22 per cent.; in Oldbury 8 per cent.; in King’s Norton and Northfield 8 per cent. When so many mothers go out to work daily, one can easily imagine the infants and children, “day-nursed” at home, must to some extent suffer. Redditch always has, and always will so long as its staple industry is needle and fish-hook making, employ very largely of female labour.

“Hereditary tendencies” add somewhat to our high rate of infantile mortality. For some generations past the industrial conditions of the district have been such that almost all work was done in close factories and workshops. I think it is reasonable to assume that such sedentary work in preceding generations has had a deliterious effect on the present day population.

The question, however, is how can we best direct our energies to prevent this excessive mortality? I believe the answer lies in the word "Education."

With this object in view an application has been made to the County Council to obtain the services of a Health Visitor for the district. I trust the Council will grant it. Already we have in the town several District Nurses, and I feel it is impossible to speak too highly of the services they have rendered to the sick and poor of Redditch. The Health Visitors' duties would, however, be different to those of the District Nurses, in that they would mostly consist of visiting houses in the poorer parts of the town, where children have been born, to give the mothers practical instruction in the feeding and care of infants; to enquire into the general condition of such houses, and report thereon; to distribute leaflets as to the feeding of infants, prevention of diseases, etc; and to give short addresses to small classes on personal hygiene, advantages of fresh air, infant feeding, etc., etc.

INQUESTS.

Inquests were held in eight instances, four per cent. of the total deaths.

DEATH CERTIFICATES.

All the deaths with the exception of four were certified by the medical attendant, or the coroner.

The assigned causes of death are fully set out in Table IV.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR 1902.

TABLE A.

REDDITCH URBAN DISTRICT. Area in acres, 1,023. Population in 1891, 11,311; 1901, 13,493.
Increase, 1891-1901, 2,182. Estimated Population, 1902, ~~13,748~~ 13,784.
Medical Officer of Health - J. STEVENSON, M.B., D.P.H.

Mortality per 1,000 of Population living during same period :—Birth Rate, 29·2. Death Rate, 13·2. (a) Zymotic Death Rate, 1·5. (b) Inf. Mortal., 156. Phthisis Death Rate, 1·2. (c) Resp. Death Rate, 2·5. Smallpox Death Rate, 0. Measles Death Rate, 0·0. Scarletina Death Rate, 0·7. Diphtheria and Membranous Croup Death Rate, 0·2. Whooping Cough Death Rate, 0·7. (d) Fever Death Rate, 0·2 (e) Diarrhoea Death Rate, 0·1. (f) Enteritis Death Rate, 0·3. Cancer, Malignant Disease Death Rate, 0·8.

	Smallpox	Measles	Scarlatina	Diphtheria	Membranous Croup	Fever	Erysipelas	Puerperal Fever.
Cases ..	0	—	79	14	—	19	23	4
Deaths ..	0	3	1	4	0	4	2	0
Hospital Cases ..	0	0	75	4	0	7	0	0
Deaths ..	0		0	1	0	1	0	0

Diseases prevalent—(1) Whooping Cough, (2) Scarletina. Period—(1), Spring and Summer, (2) Last Quarter of year.
Schools closed—None.

- (a) Includes Smallpox, Measles. Scarletina, Diphtheria, Whooping Cough, Fever, and Diarrhoea.
- (b) Estimated by measuring the proportion of deaths of infants under 1 year per 1,000 of the births registered during the same period.
- (c) Includes Bronchitis, Pneumonia, Pleurisy.
- (d) Includes Typhus, Enteric Fever, and indefinite Forms of continued Fevers.
- (e) Under the heading of "Diarrhoea" are included deaths certified as from Epidemic Enteritis, Zymotic Enteritis, Epidemic Diarrhoea, Summer Diarrhoea, ill-defined nature; and also deaths certified as from Epidemic Enteritis, Zymotic Enteritis, Epidemic Diarrhoea, Summer Diarrhoea, Dysentery and Dysenteric Diarrhoea, Choleraic Diarrhoea, Cholera, Cholera Nostras (in the absence of Asiatic Cholera).
- (f) Under the heading of "Enteritis" are included those certified as from Gastro-enteritis, Muco-enteritis, and Gastric Catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health should have reason for including such deaths, especially those of infants, under the specific term of "Diarrhoea."
- Deaths from diarrhoea secondary to some other well-defined disease shall be included under the latter.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING
1902 AND PREVIOUS YEARS.

YEAR	Population estimated to middle of each Year.	Births		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total deaths in Public Institutions in the district.	Deaths of Non- residents registered in Public Institutions in the District.	Deaths of residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT	
		Number	Rate.*	Under 1 year of age		At all ages.					Number	Rate.*
				Number	Rate per 1,000 Births registered.	Number	Rate.*					
I	2	3	4	5	6	7	8	9	10	11	12	13
1892	11,580	384	33·1	78	203	202	17·4					
1893	11,800	388	32·8	67	172	205	17·3					
1894	12,006	330	27·4	26	78	129	10·0					
1895	12,224	347	28·3	56	161	223	18·2					
1896	12,442	341	27·4	78	228	206	16·5	4				
1897	12,660	324	25·5	65	200	214	16·9	10				
1898	12,894	388	30·0	73	188	209	16·2	9				
1899	13,112	388	29·5	65	170	184	14·0	8				
1900	13,330	392	29·4	78	198	264	19·8	6				
1901	13,550	418	30·8	62	148	184	13·5	10	3	3		
Averages for years 1892-1901	12,559	370	29·4	64	174	202	15·9					
1902	13,784	403	29·2	63	156	183	13·2	10	3	3	183	13·2

*Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

Area of District in acres (exclusive of area covered by water) 1,023 acres.

Total Population at all ages	..	..	13,493
Number of Inhabited Houses	..	..	2,920
Average Number of Persons per House	..	..	4·6

(At Census of 1901).

TABLE II.
REDDITCH URBAN DISTRICT.

Names of Wards.	1.—CENTRAL				2.—NORTH-WEST				3.—EASEMORE				4.—HOLLOWAY				5.—ST. LUKE'S			
	Population estimated to middle of year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1902	2715	82	42	19	2660	75	36	10	2773	89	32	7	3204	74	32	7	2432	83	41	20

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED
DURING THE YEAR 1902.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY (excluding Chickenpox)					No. of Cases Removed to Hospital from Each Locality.					
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 & upwards	Central	North-West	Rasemore	Holloway	St. Luke's	Central	North-West	Rasemore	Holloway	St. Luke's
Smallpox ..																	
Cholera ..																	
Diphtheria ..	14		4	7	1	2			8	2	2	2		3	1		
Membranous Croup..																	
Erysipelas ..	23	4			2	15	2	2	8	3	5	5					
Scarlet Fever ..	79	1	15	52	8	3		7	12	10	8	42	7	10	10	8	40
Typhus Fever ..																	
Enteric Fever ..	12			4	3	5				4	6	2			1	4	2
Relapsing Fever ..																	
Continued Fever ..	7		4		2	1		1	1	3	1	1					
Puerperal Fever ..	4				1	3				2		2					
Plague ..																	
Chickenpox ..	50	4	21	23	2												
Totals ..	189	9	44	86	19	29	2	10	29	24	22	54	7	13	12	12	42

Isolation Hospitals at Hill Top, Bromsgrove, for Scarlatina, "Fever," and Diphtheria.

" " at Woodgate, Lower Bentley, for Smallpox.

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1902.

CAUSES OF DEATHS.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN OR BELONG- TO LOCALITIES (at all Ages)					Deaths in the Small-wood Hos- pital.
	All Ages.	Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up-wards	Central	N'th- West	Ease- more	Holl- oway	St. Luke	
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever ..	1	—	—	1	—	—	—	—	—	—	—	1	—
Whooping Cough ..	10	6	4	—	—	—	—	3	1	1	2	3	—
Diphtheria and Mem- branous Croup ..	4	—	2	2	—	—	—	—	2	1	1	—	—
Croup	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever } Typhus ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	1	1	2	—	—	—	2	1	—	1
	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Contin'd ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Epidemic Influenza ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhœa	2	2	—	—	—	—	—	—	—	—	—	2	—
Enteritis	5	4	—	—	—	1	—	3	—	1	—	1	—
Puerperal Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	1	—	1	—
Other Septic Diseases ..	4	1	—	—	1	2	—	1	1	—	1	—	1
Phthisis	17	1	—	1	1	13	1	2	3	2	3	5	2
Other Tubercular Diseases	9	3	1	1	—	4	0	3	—	1	2	1	2
Cancer, Malignant Disease	12	—	—	—	—	7	5	3	2	—	2	3	2
Bronchitis	26	7	4	—	—	5	10	7	5	3	5	6	—
Pneumonia	9	4	2	—	1	1	1	3	2	1	2	1	—
Pleurisy	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Diseases of Res- piratory Organs ..	1	—	—	—	—	1	—	—	—	1	—	—	—
Alcoholism	—	—	—	—	—	—	—	—	—	—	—	—	—
Cirrhosis of Liver } ..	2	—	—	—	—	2	—	1	1	—	—	—	—
Venereal Diseases ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Premature Birth ..	10	10	—	—	—	—	—	2	4	1	1	2	—
Diseases and Accidents of Parturition ..	1	1	—	—	—	—	—	—	—	1	—	—	—
Heart Diseases ..	17	1	1	—	2	5	8	2	5	4	2	4	—
Accidents	3	2	—	—	—	1	—	2	1	—	—	—	—
Suicides	2	—	—	—	—	2	—	—	—	1	—	1	—
Senile Decay	9	—	—	—	—	—	—	1	3	2	2	1	—
Convulsions	6	6	—	—	—	—	—	1	—	2	1	2	—
Congenital Debility ..	10	10	—	—	—	—	—	3	2	2	2	1	—
All other causes ..	17	4	1	—	—	7	5	3	4	2	2	4	2
All Causes	183	63	15	6	6	54	39	40	36	29	29	39	10

NOTIFIABLE DISEASES.

SMALLPOX.

No cases were notified.

CHICKENPOX.

On account of the epidemic in London, and the frequent occurrence of cases of smallpox in Birmingham and the neighbourhood, it was deemed advisable to make this disease a notifiable one for the six months, from April 1st. Fifty notifications were received.

SCARLET FEVER.

Scarlet fever has been responsible for seventy-nine notifications; thirty-seven, or nearly half of these were received during the last three months of the year.

Seventy-five of the cases were removed to the Hospital at Bromsgrove. There has been only one death registered as due to scarlatina during the year. This death occurred in Redditch, all of the cases treated at Bromsgrove making good recoveries.

DIPHTHERIA.

Fourteen notifications were received—thirteen in the first quarter of the year, and one in the second quarter. Four cases terminated fatally in the district, and of the four treated at the Isolation Hospital, one died. It is very gratifying to be able to report there was no return of this disease during the last quarter of the year, when we might have expected it to re-appear.

ENTERIC AND CONTINUED FEVER.

The total cases notified amounted to nineteen. Enteric was responsible for twelve of these, and of the twelve four were fatal. Efforts were in each case made to trace the source of infection. Three were undoubtedly infected by a previous case in the same house. The water supply was in each case exculpated, and there was no association with any particular milk supply. Food infection is probably the cause of most of these sporadic cases of Enteric.

ERYSIPELAS.

Twenty-three cases were notified, with two deaths.

PUERPERAL FEVER.

Four cases; no deaths.

NON-NOTIFIABLE DISEASES.

MEASLES.

Only a few cases occurred during the year, and no death from it has been registered.

WHOOPING COUGH

Was epidemic in the district most months of the year. As it is not notifiable, it is impossible to give any idea as to the number of cases, but few houses, in which there were children, escaped a visitation. Ten deaths were certified as due to it, all of which were in children under five.

EPIDEMIC INFLUENZA

Did not cause a death.

EPIDEMIC DIARRHŒA

Appeared during the summer months in a very mild form. There were only two deaths from it as against eight in 1901.

ENTERITIS

Caused five deaths as against seven in 1901.

TUBERCULOSIS

Of all forms, was the assigned cause of death in twenty-six instances, and was equal to a rate of 1·8 per 1,000 persons, while Phthisis alone was responsible for seventeen deaths, or a rate of 1·2 per 1,000. Many progressive towns are now taking steps for the provision of sanatoria for consumptives. Worcester County has lately acquired a building in a most suitable site and has opened it for the reception and treatment of patients. It is most desirable that Redditch should co-operate with the rest of the county in supporting this institution.

Apart from the benefits resulting to individuals from sanatorium treatment, very great value must be placed on the good work which these institutions are doing by inculcating the importance of fresh air and general hygiene.

JOINT ISOLATION HOSPITAL AT BROMSGROVE.

This, which was opened in 1900, is admirably situated, and has all the advantages of a modern permanent hospital. During the year one case of Enteric fever, four cases of Diphtheria, and seventy-five of Scarlatina were removed from Redditch, isolated and treated there. It is a remarkable and gratifying fact that in the one hundred cases of Scarlatina sent from Redditch to the Isolation Hospital during the past two years there has not been a single fatality.

TOTAL OF REDDITCH CASES IN ISOLATION HOSPITAL
DURING 1902.

Scarlatina, 75.	Average duration of stay in Hospital, in days, 43·8.			
Diphtheria, 4.	„	„	„	26·0.
Enteric, 1.	„	„	„	72.

The average cost per patient during such residence was about £2 13s.

For the isolation of Smallpox patients (if any cases should occur) provisions have been made by the Joint Board. The Hospital is situated at Woodgate, Lower Bentley:

WATER SUPPLY.

With the exception of twenty-five wells, the water supply (a “constant” one) is drawn from the East Worcestershire Water Company’s deep wells at Burcot. None of the diseases arising during the year were in any way attributable to the supply being impure.

One analysis of water from a well was made during the year.

HOUSE REFUSE COLLECTION AND DISPOSAL.

Undoubtedly for the stowage and collection of house refuse the best arrangement, in all classes of houses, is the provision of galvanised iron pans, or tubs, with close fitting lids, to stand in an outhouse or the yard. The scavengers can easily carry these, and tip their contents into the carts. Where they have been provided they have been emptied on an average once a week. The old “dry ashpits” are not so easily cleared, hold more, the refuse is often allowed to accumulate, and they necessitate the use of a wheelbarrow to convey the material from the pit to the cart. As a consequence of this, while emptying the pit the refuse has to be collected on the side of the street to wait for the carts to pick it up, and these unsightly mounds with their dust blown hither and thither by the wind often constitute a danger to the public health. During the year there was no regularity in the system of clearing these, but your surveyor now proposes to so divide the work that each ashpit will be cleared once a month at least; this will be a distinct improvement. The loads are conveyed to the various “tips,” all of which are situated well outside the town, and somewhat difficult of access, with the consequent disadvantage that a great deal of time is lost in getting to and from them. For this, and various other reasons which I need not enter into now, I believe you will soon have to consider the question of providing a “Destructor,” and in it you would undoubtedly have the best method of getting rid of all this refuse.

DRAINAGE AND SEWERAGE.

As will be seen in your Sanitary Inspector's Report many drainage improvements have been made on various properties in your district, new drains, etc., being laid down under constant supervision, so that the work should be carried out in a thoroughly satisfactory manner. It is well, I think, to issue here a word of warning to occupiers of houses (especially in the poorer parts of the town) as to their responsibility in connection with the W.C.'s, drains, etc., of the premises they occupy. It seems to be generally believed that the owner of the property is the "person responsible" in case any drain gets blocked, or other nuisance arises, and that he, and he alone is the offender, and can be called on to abate the nuisance. Such is not the case. Householders should take care that the drains, water closets, etc., on their premises are only used for those purposes for which they were intended, and not for the disposal of any sort or size of rubbish, and if they by carelessness, negligence, or inattention in looking after them, allow them to get in such a state as to cause a nuisance, they may be considered the "persons responsible," and proceedings may be taken against them.

As regards the sewers of your district, attempts have been made to improve their conditions in two important ways. The ventilation has been much discussed, and shafts have been erected at those places where it was thought they would be most serviceable. The other improvement is that some progress has been made in providing a separate system for the conveyance of "storm water." In one part of the town such a system has been laid down, and your Surveyor is now at work on several schemes by means of which he hopes to be able to relieve the sewers by carrying off most of the storm water in a service of pipes separate from the sewers.

MILK SHOPS AND DAIRIES.

The importance of a pure milk supply in a growing town like Redditch cannot be questioned. I would like to draw your attention to the unsuitability of many of the premises and shops in which milk is stored, and from which it is sold.

FACTORY AND WORKSHOPS ACT, 1901.

This new Act came into force in January, 1902. It amends and consolidates all previous existing legislation on the subject of workshops and factories, and puts much additional work on the sanitary authorities and their officers. The broad distinction between a "Factory" and a "Workshop" is the presence, or absence, of steam or other mechanical power. The sanitation of the former belongs to the Factory Inspector (under the Home Office), and that of the latter to the sanitary authority of the district in which it is situated. Owing

to the pressure of other work it has not been possible to give as much serious attention as one wished to the administration of this Act in our workshops and workplaces. A list of workshops has been drawn up and already it numbers close on two hundred. In addition, there are numerous domestic workshops which come under the provisions of the Act.

During the year one hundred visits were made, and in seventy instances the workshops were thoroughly inspected and measurements taken as to cubic area, air space, etc. In about one case in ten white-washing and cleansing of the premises were recommended and carried out. In two cases the ventilation was deficient.

There was one case of over-crowding in a workroom, and one of insufficient closet accommodation.

During the present year (1903) this branch of work shall have the special attention of the Sanitary Inspector and myself.

INSPECTOR OF NUISANCES ANNUAL REPORT
OF
URBAN SANITARY DISTRICT OF REDDITCH.

To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

I have the privilege to present my Third Annual Report on the various branches of Sanitary duties which devolved upon me during the year which ended 31st December, 1902.

During the year under review many Sanitary improvements have been effected, and every means taken to improve the Sanitary condition of the district. The inspection of the district has been carried out systematically as far as possible, but the epidemic of Scarlatina which visited us towards the end of the year completely altered the regular routine work of the office.

The most thickly populated streets which are occupied by the working classes have had my constant attention, and wherever any nuisances were found to exist prompt action has been taken to secure their abatement, to further the better sanitary condition of the houses of the people, and to improve the health of the town.

I would take this opportunity of expressing my thanks for the courtesy and support accorded me by the Council during the year.

I am, Gentlemen,

Your obedient Servant,

WILLIAM JAMESON

(Assoc. San. Inst.)

February, 1903.

NOTICES.

One hundred and seventy-nine notices have been served for the abatement of various nuisances, and for the improvement of dwelling houses, areas, &c., generally, under the Public Health Acts. One hundred and thirty-six of the notices were preliminary, forty-three being legal.

Property owners and agents have, I am pleased to state, given no more trouble on the whole, than in the two preceding years. This is evidenced by the fact that at the close of the year there were no notices outstanding, all works specified in notices having been executed.

The appended table shows the nature of the notices issued during the year.

PROCEEDINGS.

In three instances it was necessary to institute summary proceedings against persons for not complying with notices served upon them to abate nuisances.

One summons was taken against an owner for not providing proper ashpit accommodation for dwelling-houses in Beoley Road. The case was withdrawn upon the owner erecting ashpits and paying the costs.

Two occupiers of houses were summoned for causing a defective water closet to exist (the owner of the premises having just previously put the closet in thorough repair.) These cases were adjourned for a week, and subsequently withdrawn upon the occupiers repairing the closet and paying the costs of the action which amounted to £1 os. 6d.

CLERICAL.

This part of my work has again been heavy, 337 letters having been written upon matters appertaining to sanitation. Of this number 114 were letters of recommendation. In these letters the defects were briefly stated, and suggestions given as to the best and most effectual way of rectifying them.

By adopting this course of procedure, extra labour is incurred, but in practice it is found to greatly commend itself as many people will more readily carry out improvements on being advised than they will on receiving a legal notice setting forth the compulsory requirements. So that by following this course much unpleasantness is avoided.

SANITARY IMPROVEMENTS.

Twelve intercepting chambers have been constructed between the sewers and the houses, being provided with syphons, channel pipes, and movable covers. They not only serve the purpose of

cutting off the sewer gas from the houses, but form ready means of access to the drains at any time for the purpose of examination or removing anything which may have got lodged in the drain.

The drains of sixty-one houses have been thoroughly overhauled, taken up, and re-laid where found necessary.

Twenty-one disconnecting syphons, two mica flap and nineteen fresh-air inlets, and twenty-eight glazed sinks have been fixed. Seventeen drains provided with ventilation shafts, five ashpits, and thirty-nine ash-bins have also been provided.

WATER AND PAIL CLOSETS.

Four new water closets have been provided; seven water and two pail closets substituted in place of privy middens; and four additional pail closets provided.

PRIVY MIDDENS.

In October a special report, with reference to privy middens within the Council's area, was prepared and submitted for consideration.

There are now thirty-eight in existence, thirty-three of these being deep middens; that is to say, the floors or bottoms of the pits are from three to six feet below the surface of the ground adjoining, the other five having the floors on the same level as the ground.

About one-half of the middens are quite dry, which shows that great care is exercised by those who use them, whilst some are very wet through being improperly used. The worst ones are being weeded out and abolished.

Nine have been abolished during the year, eleven during the year before, and twelve in the year 1900.

In the course of the coming year I shall endeavour to still further reduce the number of these objectionable places, and, wherever possible, have water closets substituted.

HOUSE TO HOUSE SURVEY.

Progress in this work has been very limited. Through pressure of other duties little time could be given to the work.

144 houses have been examined, seventy-seven being through houses, and thirty-seven back to back.

The houses situated in Walford and George Streets are occupied by 631 inhabitants, which gives an average of 4.38 persons (including children) to each house.

In twenty-nine instances defects, chiefly arising from drains, roofs, floors, and ashpits, were found to exist, but these have been remedied.

WATER SUPPLY.

To the best of my knowledge there are twenty-five wells from which water used for drinking purposes is derived. A sample was submitted from each one in the preceding year for analysis, not one of which was certified as unfit for use, therefore the Committee did not think it necessary to send samples during the year just closed.

A complaint was, however, received respecting one well; a sample was obtained and sent for analysis, and was certified as being unfit for drinking purposes. Upon request, the premises were supplied with the East Worcestershire Waterworks water.

SLAUGHTER HOUSES.

There are eight of these premises within the district, three more than last year.

The three additional ones are situated in Windsor Road, Beoley Road, and Evesham Road, the latter one being only for the slaughtering of sheep and pigs. The one in Beoley Road is a new building and is well suited for the purpose.

The management of the Arrow Road slaughter house has been far from satisfactory, and it was not until considerable pressure had been brought to bear that proper regulations were carried out. The principal cause of the trouble was attributable to the fact that the premises were used by several butchers, and each one shirked the responsibility of keeping the place in a cleanly condition. The premises have now been taken over by one person, and there is every reason to expect good management to be exercised.

The other slaughter houses have been kept clean and fairly well conducted.

UNSOUND MEAT, Etc.

During the year two cases of unsound meat were reported.

In one case, that of a butcher selling a beast's cheek which was unsound and unfit for human food, proceedings were taken under the Public Health Act, 1875, and the Public Health Amendment Act, 1890. A fine of 5s., and costs £2 2s., was inflicted.

The other case, viz., that of a rabbit being sold which was also unsound, was considered not to be a case for prosecution, so no proceedings were taken. The vendor expressed his regret for having sold the rabbit when unfit for food, and paid 5s. to the purchaser as compensation.

FISH MARKET.

Constant attention has been given to the fish market, two and three visits having been made each Saturday. I am pleased to state that no seizures were made; and, on the whole, the quality of the fish has been better.

On Sunday mornings the fish carts usually visit certain streets. The fish offered for sale has been examined occasionally, but none found to be unfit for food.

OFFENSIVE TRADES.

Tripe Boiler : A complaint was made with reference to an offensive smell emanating from premises occupied by a tripe boiler. Upon investigation the nuisance was found to be caused through the tripe being kept too long in the raw state. A caution was given which was sufficient to cause the abatement of the smell.

Fellmonger : In August a letter was received complaining of the manner a fellmonger conducted his business. The case was investigated and arrangements were made for the skins, hides, etc., to be removed twice weekly instead of only once, and greater care to be exercised in the loading of the drays. No further complaint has been made since these arrangements were carried out.

BAKEHOUSES.

There are two bakehouses less than last year, the number being twenty-seven, giving employment to fifty-one persons (all males.)

The occupiers of bakehouses have had their premises regularly lime-washed, and have given no cause for complaint. Although frequent visits have been made it was seldom that requests had to be made for anything to be done.

DAIRIES, COWSHEDS AND MILKSHOPS ORDERS.

I hoped to have presented a Report dealing with the premises to which these orders apply, but as it is not completed, it will have to be presented as an interim Report during the year.

COMMON LODGING HOUSES.

These houses are the same as last year, there being two registered keepers of Common Lodging Houses.

Several visits have been made to each house, one being made in August at midnight, but the regulations as to the number of lodgers were found to be properly observed. On the whole these premises have been conducted in a satisfactory manner.

I would, however, point out, as in the last Report, that the houses are very old, badly constructed, and difficult to keep clean, and are not really fit for the purpose for which they are used.

From a public health point of view a " Model Common Lodging House " is required, and if erected economically, could be made to pay its way. The question of whether it should be undertaken by the Council or by a private individual, is debatable. But an inspection of any of the modern lodging houses in the country will convince anyone that Redditch is certainly in want of such a house.

FACTORY AND WORKSHOPS ACTS, 1878-1901.

The time given to the administration of these Acts has been limited.

A list of about two hundred workshops and work places has been prepared, one hundred have been visited, seventy being measured and the cubic contents obtained. The contraventions found were as follows:—

Workshops requiring whitewashing and cleaning	...	...	9
„ with insufficient closet accommodation	...	...	1
„ badly ventilated	...	...	2
„ overcrowded	...	...	1
Total			13

With one exception these contraventions were remedied on giving a verbal intimation to the owners.

One complaint was received from His Majesty's Inspector of Factories for this district, complaining of certain workshops being without sufficient and separate closet accommodation for both sexes. The premises were inspected and statutory notices served, when the additional closets were provided.

SHOP HOURS ACT.

Twelve visits have been made under this Act, but in each place visited it was found that the hours of employment were being adhered to.

INFECTIOUS DISEASES.

Enquiries have as usual been made in all cases, with a view to tracing the cause of infection; the enquiries, however, rarely furnished any information pointing to the cause.

The greatest difficulty to contend with is the fact that women, and chiefly those with families, will in spite of warnings given, pay what they term sympathetic visits to infected houses, and it seems almost impossible to convince them that they are exposing their own children to the dangers of the disease.

DISINFECTION.

Ninety-three rooms and twenty-one houses (throughout) have been disinfected during the year.

In some cases owing to the patients having been removed from one room to another, I have had the whole house disinfected, so as to avoid, as far as possible, any risk of other cases occurring in the same house.

FEEDING INFANTS.

The two thousand "Hints on the Management and Feeding of Infants," prepared by the late medical officer, were distributed in the following places :—

Evesham, Ipsley, George, Silver, Red Lion, Walford, Smith, Hill, William, Alcester, Windsor, Edward, Britten, Melen, Orchard, Beaufort, South, Oswald, Summer, Victoria, Peakman, Grove, Glover, Union, and New Streets. St. George's, Marsden, Lodge, Clive, Easemore, Millsboro', and Hewell Roads; also Unicorn and Bates Hill, Skinner's Buildings, Ipsley Row, Market Place, Church Green East, and Izod's Yards.

FILTHY STREETS.

There have been a great many nuisances caused through occupiers of houses throwing filth and refuse into the streets. Although repeated warnings have been given the practice does not decrease.

The appearance of some of the streets at times is most unsightly, and I think the time has arrived when some action should be taken to put an end to such practices, and I commend this question to the Council for consideration.

LIST OF NOTICES ISSUED DURING THE YEAR.

NATURE OF NOTICE.				No. of Notices Issued.
Defective and Choked Drains	...	...	...	25
„ „ „ Water Closets	...	...	...	21
„ „ Foul Privies...	...	...	...	44
„ Yard Pavements ...	...	...	...	6
„ Eave and Fall Spouts	...	...	...	16
„ Bell and Dip Traps	...	...	...	1
„ Ashpits ...	...	...	...	2
„ House Roofs, Floors, and Walls	...	...	...	3
Accumulations of Manure, etc.	...	...	...	14
Animals improperly kept	...	...	...	3
House Walls in damp condition	...	...	...	2
Houses in filthy condition	...	...	...	6
Dilapidated Wash Houses	...	...	...	2
Drains not intercepted or ventilated	...	...	...	5
Defective old Privy Middens	...	...	...	2
Rain Water Tanks in foul condition	...	...	...	1
Urinals in foul condition	...	...	...	2
Water Closets without proper water supply	...	...	...	1
Yards, etc., in filthy condition	...	...	...	3
Want of proper Ashpits or Ashbins	...	...	...	12
Houses over-crowded	...	...	...	1
Want of sufficient Closet Accommodation	...	...	...	3
Slopsinks connected to drains	...	...	...	4
				Total—179

RHONDDA URBAN DISTRICT COUNCIL.

REPORT

OF

THE MEDICAL OFFICER
OF HEALTH

FOR THE

YEAR 1902

TREHERBERT :

I. JONES, PRINTER, &c., STATIONERS' HALL.

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RHONDDA URBAN DISTRICT.

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,, WILLIAM MORGAN, J.P.
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,, MORGAN LLEWELLYN.
,, THOMAS MORGAN.
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,, WILLIAM THOMAS JONES.
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Officials of the Health Department.

MEDICAL OFFICER OF HEALTH

AND

MEDICAL SUPERINTENDENT OF THE FEVER HOSPITAL.

J. D. JENKINS, M.D., B.S. (Lond.), D.P.H., &c.

MATRON OF THE HOSPITAL—MISS EDITH M. PROCTER.

SANITARY INSPECTORS:

No. 5 District—J. TOWY THOMAS, C.S.I.

,, 1	,,	WM. WILLIAMS,	,,
,, 2	,,	WM. J. HUGHES	,,
,, 6	,,	GWILYM REED	,,
,, 3	,,	JAMES WILLIAMS	,,
,, 4	,,	DANIEL W. JONES	,,

CLERK—EVAN R. JENKINS.

In charge of Disinfector—JAMES ALESBURY AND
RICHARD HERN.

TELEPHONE NUMBERS.

Medical Officer of Health	...	Office— 15a, Pentre (P.O.)
,, ,, ,,	...	,, 7c, Pentre (Nat.)
,, ,, ,,	...	Residence 47x, Pentre (P.O.)
Fever Hospital	,,	... 47 ,, ,,
Inspector No. 1 District	...	... 2, Treherbert ,,
,, No. 2	,,	... 17, Pentre ,,
,, No. 3	,,	... 8, Tonypandy ,,
,, No. 4	,,	... ,,
,, No. 5	,,	... 3, Porth ,,
,, No. 6	,,	... 2, Ferndale ,,

RHONDDA URBAN DISTRICT.

Area	...	...	...	23,884 acres.
Population (Census April 1st, 1901)	...			113,735
Population (Mid-summer, 1902)	...			117,007
Rateable Value	...	...	...	£539,336
Birth-rate	...	...	...	42·2 per 1000
Average of previous 10 years	...		...	40·7 „ „
Death-rate (all causes)	..		...	19·2 „ „
Average of previous 10 years	..		...	20·5 „ „
Zymotic Death-rate	...		...	3·3 „ „
Average of previous 10 years	...		...	3·4 „ „
Death-rate from Phthisis (Consumption)	...		...	·84 „ „
Average of previous 10 years	...		...	·89 „ „
Infantile Mortality	...	...	...	178
Average of previous 10 years	...		...	210

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RHONDDA URBAN DISTRICT COUNCIL.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR 1902.

To the Chairman and Members of the Council.

GENTLEMEN—

I beg to submit for your consideration my Annual Report for 1902, which deals with the vital statistics and with the health of the district.

As compared with previous years, the year under consideration has been on the whole a satisfactory one in respect of the general death-rate, as well as of the diminished prevalence of infectious diseases. While congratulating the Health Committee and the

Council thereupon, I beg to indicate the directions, which, in my opinion, their energies should take during the coming year.

- (1) A more abundant Water Supply.
- (2) A better system of refuse disposal.
- (3) A proper provision for the isolation of small-pox cases, and an extension of the present hospital to meet the needs of the district.

If satisfactory solutions of the problems presented by the above subjects be found during the current year, the most pressing needs of the district will have been met.

I am,

Yours faithfully,

J. D. JENKINS.

May, 1903.

TOPOGRAPHY.

The district, with an area of 23,884 acres, is about 12 miles long by about $4\frac{3}{4}$ miles across at its widest part. It is irregularly oval in shape, its greatest width lying between a point close to the junction of Mountain Ash, Aberdare, and Rhondda Urban Districts at Blaenllechau, and a point, south-west of Gelli, on the boundary between the Rhondda and the Ogmore and Garw Urban Districts. The district as a whole consists of two narrow, tortuous valleys, which gradually approach each other in their course southwards, and join at Porth, and thence the single valley so formed runs a short course before merging into the upper end of Pontypridd Urban District at Hafod. The two valleys, running at first at some distance from each other, together with the single valley formed by the junction of the other two, are so arranged that they resemble an irregularly-shaped Y; the stem of the Y is formed by the portion of the district extending from Hafod to Porth, and is over a mile long. The limbs, of unequal length, are formed by the Rhondda Fawr valley, which is about $9\frac{1}{2}$ miles long, and by the Rhondda Fach valley, which is of a length barely $6\frac{1}{2}$ miles. Both the valleys at their upper extremities end blindly, or form *cul-de-sacs*; their lateral boundaries are formed by steep hills, which vary in height from about 566 ft. on either side of Hafod, to 1,340 ft. on the north-east of Maerdy, and 1,742 on the south-west of Treherbert. The Rhondda Fawr and the Rhondda Fach valleys are separated by a steep ridge—Cefn Rhondda—which rises from a point 600 ft. just above Porth to a point 1,692 ft. near the upper extremities of the district. The Rhondda River—formed at Porth by the junction of Rhondda Fach and Rhondda Fawr rivers—is 240 ft. above sea-level at the lowest point in the district, at Hafod, while the Rhondda Fawr river attains an elevation of 720 ft. at Blaenrhondda, and the Rhondda Fach the still greater elevation of 920 ft. at Maerdy.

The highest point in the district is Carn Moesau, which is 1,950 ft. high, and is situated at the upper end.

The valleys are very narrow, and allow in many places only sufficient space for the three R's—river, road, and railway. Although the district is a large one, the area actually built upon is comparatively small, for suitable and convenient building ground can be obtained only in close proximity to the river. Here and there, however—as at Treorchy and Ton—the valleys open out a little, and it is mainly at these expansions that considerable numbers of houses have been erected. Leading out of the main valleys are a few side valleys, of which Cwmparc, Clydach Vale, and Cymmer are the most important.

The prosperity of the district is entirely dependent upon its coal, which, in its steam-raising properties, is inferior to none.

THE SUBSOIL.

The Coal-bearing Strata are overlain by Pennant Sandstone, of which the large majority of the houses in the district are built. Scattered over the district are small areas of clay underlying peat, the latter being sufficiently abundant in some portions of the district to affect the colour and taste of the water. At the few expanded portions of the valleys the rivers are bounded by meadows whose soil is alluvial in character.

AREA.

The district has an area of 23,884·810 acres, and thus forms the most extensive Urban District in the County of Glamorgan, the next in size being Margam Urban District with an area of 18,417 acres, and a population of 9,014 at the last census. (Table 1 Appendix.)

The Rhondda Urban District is however exceeded in area by seven out of the nine Rural Districts in the County.

POPULATION.

117,007.

Of the several methods usually adopted in estimating the population of a district, three have been utilized in calculating the approximate population of the Rhondda in mid-summer of 1902.

1. The so-called "natural increase" for any particular year is calculated by adding to the enumerated population at the last census the number of births recorded and deducting from the number so obtained the number of deaths recorded during the same period. This method assumes that the immigration and emigration counterbalance each other; but in a district like the Rhondda, where labour is in such demand, the immigration usually exceeds the emigration. By this method the estimated population for 1902 is 117,063 persons.

2. Another method adopted is that of enumerating the number of inhabited houses in the district, the number so obtained being then multiplied by the number of persons per house as ascertained at the last census. Much time and labour are required to make the necessary enumeration, but when thoroughly and carefully made, such a count forms a fairly reliable basis on which the population may be estimated—probably the most reliable in the case of a district whose population undergoes more or less sudden fluctuations caused by industrial developments or failures.

It was found necessary at the end of the year to make such a count in the Rhondda in order to allow a just redivision of the district to be made in allotting a district to the additional Sanitary Inspector appointed towards the end of the year. It was necessary to deduct from this total the number of new houses passed for occupation, and to add those demolished or abandoned during the latter half of the year. The population as thus estimated at 5·9 per house amounted to 117,247 persons. (See Table 2.)

3. The third method involves the assumption that the rate of increase during the current intercensal period is taking place at the same rate as during the preceding one, cognisance being taken in any particular year of the additional number of persons, as compared with the year immediately preceding, who contribute to the total. This is the method employed by the Registrar-General whose estimate for the Rhondda at the end of June, 1902, is 117,007 persons.

It will be seen that the figures arrived at by the three methods employed agree pretty closely, and it is therefore a matter of little moment which estimate is adopted for calculating the vital statistics of the year. For the sake however of securing a fair comparison with other towns, it is advisable to employ in our calculations the last estimate (117,007).

Rhondda is now included in the 76 large towns dealt with by the Register-General in his weekly and other periodical returns. In point of population the Rhondda occupies the 24th place on the list, whereas in area it is about the most extensive of them all. The number of persons per acre in this district is 4.9 as compared with 100 to 200 persons per acre in many large towns. This comparison is however very fallacious because, owing to the conformation of the Rhondda, building operations therein are confined to a comparatively small area.

In the course of the year the detailed census returns dealing with Glamorganshire have been issued and they present many points of great interest concerning the occupations, ages, &c. in the various districts of which the County is comprised. These returns state that Barry experienced the greatest (103.6 per cent) and Swansea the smallest (3.8 per cent) relative increase during the last intercensal period, Rhondda with 28.7 per cent standing fourth (Table 3.).

In respect of the occupations of those in the Rhondda most interest naturally attaches to the information concerning the mining section of the population. Table 4 furnishes the intimation that 32,625 or 68·9 per cent of the males above 10 years of age at the time of the last census were engaged as coal or shale miners, and that 31·5 per cent of the total number of workers in mines and quarries in the whole of Glamorganshire lived in the Rhondda.

During the last intercensal period Rhondda gained to the extent of 5,194 persons by inter-migration. In connection with this subject it is interesting to note that 61·8 per cent of the Rhondda inhabitants enumerated at the last census were born in Glamorganshire, 5·1 in Cardiganshire, which, next to Glamorganshire, contributed the largest proportion, and 3·6 in Somersetshire which was the English County to send the largest quota to the Rhondda.

For information concerning the language or languages spoken, reference should be made to Table 5 in the Appendix.

BIRTHS.

		Average of 10 years. 1892—1901.
	1902	
Number of births	4937	4173
Birth-rate in Rhondda	42·2	40·7

During the year 1902 there were registered 4,937 births in the Rhondda, or 649 more than in the previous year. Of this total, 2,549 were boys and 2,388 were girls.

These figures give a birth-rate of 42·2 per 1000 living, as compared with 40·7, which was the average rate for the last 10 years (Table 7).

The birth-rate thus pertaining to this district is considerably higher than that of any other of the 76 large towns, in none of which is a rate of 40 or upwards recorded by the Registrar General.

Comparison with the general birth-rate affords a still greater inequality, for the rate for the whole of England and Wales is only 28·6 per 1000 living. (See Table 8.)

The “natural increase” in the population, or the excess of of births over deaths throughout the year, amounted to 2,694 persons.

The last quarter of the year contributed the largest, and the second quarter the smallest, number of births.

The ratio which the number of boys bears to the number of girls,—1,067 to 1,000—is slightly higher than the average for the country, the usual ratio being 1,040 boys to 1,000 girls.

Many factors doubtless contribute to the high birth-rate in the Rhondda.

In the first place, the district has enjoyed unusual prosperity for a number of years; wages are good and work is plentiful. Such conditions constitute important influences in raising the marriage-rate.

In the second place, the district contains an undue proportion of young adults for two reasons.

1. The demand for labour has caused a great influx of young male adults into the district

2. The high birth-rate, which has been so noticeable in the district for at least 30 years in itself helps to maintain the high point attained by the birth-rate because a high birth-rate, after a number of years, involves the addition to the population of an undue proportion of persons who have reached a marriageable age.

In the third place, the conditions obtaining in the Rhondda exercise an important influence in the direction of early marriages.

In the fourth place, the high infantile mortality tends to cause a high birth-rate by shortening the intervals of child-bearing, for, in the case of naturally-fed children, the death of the child cuts short the period of suckling.

ILLEGITIMACY.

Throughout the year 77 illegitimate births were recorded, the rate thus occasioned being 15 per 1000 of the total births, or .65 per 1000 of the population living. This rate is the lowest since 1895, in which year a systematic record of the illegitimate births was commenced, and compares very favourably with that for the rest of the country. We are indebted to the three registrars,—Messrs George Williams, Howell Davies, and Charles Morgan, for the information which has enabled us to maintain this record without intermission (Table 9).

The mortality among illegitimate children is very great, for no fewer than 36 died during the year. Of this number 21, or 58 per cent, were under one year of age.

The infantile mortality among the illegitimates thus amounted to 272 per 1000 births and compares very unfavourably with the rate for the whole district,—178 per 1000 births.

DEATHS.

Number	...	..	...	...	2,243
Rate per 1000 in Rhondda	...		...	...	19.2
Rate per 1000 in 76 great towns...			...	...	17.4
Rate per 1000 in England and Wales			...	...	16.3

The number of deaths registered in the district during the year amount to 2190, equivalent to a mortality-rate of 18.7 per 1000 living. This figure however requires correction in two directions in order that a more accurate death-rate may be arrived at. In the first place, it is necessary to add to

this total the number of deaths of persons who were removed from the district on account of illness ; there were 56 such during the year under consideration, the institutions which received the greatest proportion of them being, in order, Pontypridd Workhouse, Bridgend Asylum, and Cardiff Infirmary. In the second place, the number of deaths of persons “ who were brought into the district on account of illness ” must be deducted ; in this class only 3 have to be noted. After these corrections the nett deaths belonging to the district amount to 2243 for the whole year, and represent a death-rate of 19·2 per 1000 of the population living.

Notwithstanding the increase in the population of the district which has taken place year after year, the number of deaths during 1902 has been exceeded three times in the course of the last 10 years, and the death-rate has been exceeded no fewer than eight times during the same period, the exceptions being 1894 and 1897, and the rate for the year is 1·3 per 1000 below the average for the 10 years (Table I.)

It is impossible to say how much (if any) of this improvement is due to improved sanitary conditions in the district ; for we may safely say that the character of the meteorological conditions prevailing throughout the year were favourable to the causation of a low death-rate, the winter having been moderately mild and not productive of many deaths from respiratory diseases, while the summer was cool and therefore not conducive to the occurrence of many deaths from diarrhoeal diseases.

The hospital also appears to have exerted no little influence in the prevention of the occurrence of cases of, and deaths from, the infectious diseases for which accommodation is at present provided.

When the death-rates in the several wards are considered, it is seen that there is no inconsiderable difference between

the two extremes. Ward 3 with 15·9 per 1000 being the lowest and Ward 10 with 21·2 per 1000 being the highest. (Table 10).

During 1902 the Registrar-General by enlarging his group of "great towns," each with a population of 50,000 or more at the last census, has made it possible for us to extend the scope of comparison with other towns in England and Wales (Table 11).

Although such a comparison is somewhat to the disadvantage of the Rhondda, which occupies the 58th position on the list, it is pleasant to record that 8 of the 33 towns, formerly called "great," occupy positions below the Rhondda, as compared with 3 in 1901.

Hornsey with the extraordinarily low rate of 8·6 per 1000 stands at the head of the list and Merthyr Tydfil with a death rate of 23·1 at the other end of the list.

NOTE :—It will be noticed that in the Table (No 11), the Rhondda death-rate is given by the Registrar-General as 18·7 per 1000, which is the rate uncorrected for the deaths of persons habitually residing in the Rhondda who were treated and died in institutions outside the district, but as the rates in the case of the other towns also are uncorrected, the comparison is generally speaking a fair one. It is probable however that any advantage which may accrue to the other great towns on the one hand or the Rhondda on the other from accepting the uncorrected death-rates rests with the latter because very few if any of the former are so poorly provided with institutions for the reception of the sick as the Rhondda.

The ages of those who died in the Rhondda during the year were as follow : —

- 883, or 39 per cent., under 1 year of age.
- 369, or 17 per cent., over 1 year and under 5 years.
- 102, or 5 per cent., over 5 and under 15 years.
- 108, or 5 per cent., over 15 and under 25 years.
- 545, or 24 per cent., over 25 and under 65 years.
- 236, or 10 per cent., over 65 years.

UNCERTIFIED DEATHS.

During the year 2190 persons were registered as having died in the district. The number certified by Coroners amounted to 118, while 14 were uncertified; the rest were certified by registered medical practitioners.

In the case of the uncertified deaths, which amounted to only .6 per cent of the total, the following causes of death were given by the Registrars:—

Convulsions	...	...	7
Congenital Debility	...	...	3
Heart Disease	...	...	2
Premature Birth	...	...	2
			—
			14

Of the total, 7 were only a few hours old at the time of death.

STILL-BORN CHILDREN.

I am indebted to Mr. Powell, the clerk to the Burial Board, for the following return of the number of still-born children brought to the three cemeteries for burial during the years 1892—1902.

				Average of 10 years.
1892	...	...	259	} 266
1893	...	...	239	
1894	...	...	246	
1895	...	...	256	
1896	...	...	295	
1897	...	...	229	
1898	...	...	210	
1899	...	...	271	
1900	..	...	312	
1901	..	...	348	
1902	..	...	333	

INFANTILE MORTALITY.

				Average for the 10 years.
				1902 1892-1901
Rhondda per 1000 births	..	...	178	210
76 Large Towns	...	...	145	
England and Wales	...	...	133	152

The Infantile Mortality is calculated by stating for each year the number of deaths of infants under one year of age to every thousand births during the same year.

During 1902, 883 deaths of infants under one year of age occurred in your district, while there were 4937 births; the infantile mortality therefore stands at 178 per 1000 births.

This rate is the lowest recorded for the last 10 years, the nearest approach to it being the 186 per 1000 in 1900. (Table I.)

This improvement is satisfactory but it should be remembered that the country generally also shows a marked improvement, although not to the extent noticeable in the Rhondda. Notwithstanding the fall in this district's infantile mortality from 222 in 1901 to 178 in 1902, the Rhondda still occupies an unsatisfactory position for it is removed only 5 places from the bottom of the comparative table (No 14).

The infantile mortality of a district is considered a good indication as to its sanitary condition and the reliability of the method of calculation employed is not dependent upon uncertain data such as estimates of population and is not to any large extent affected by migration.

Many factors influence the infantile mortality of a district. Some of these, such as congenital malformations and prematurity are common to all districts though to varying extents.

Among those which are especially potent in the Rhondda are the inexperience and ignorance of mothers, the former of which is in no small measure due to the early age

at which many of the women get married. At the time of the last census, the proportion of the married women under 21 throughout the County of Glamorgan amounted to 18 per 1000 of the total number of married women of all ages, while in the Rhondda the proportion was 29 per 1000. We cannot exercise any control over this factor which will probably continue to exert its influence to the full as long as the population of the district retains its industrial character and during the maintenance of the prosperity which the Rhondda has enjoyed for some years.

The influence of the ignorance of mothers as to what is best for their infants is most noticeable in the improper feeding of infants especially those not naturally fed as well as in the careless and fatalistic manner in which they treat the so-called "children's complaints."

Very many mothers wrongly consider these ailments to be trivial and unavoidable although really accountable for a large proportion of the 883 deaths of children under one year of age which occurred in the Rhondda in the course of 1902. It is in connection with this ignorance that a great saving of life and of suffering may be effected, and it may be added that the actual loss of life is not by any means a full measure of the harm done by improper feeding and want of intelligent care, for an avoidable but not fatal illness during infancy very frequently interferes with the growth and general well-being of the sufferer in after life.

It is probable that the most effectual as well as economical mode of effecting an improvement in this direction will be to appoint a trained woman inspector or "health visitor," who, equipped with the necessary knowledge and literature in the form of pamphlets, &c., would be able to give where necessary a few simple instructions and

practical demonstrations for the guidance of the mother in the treatment of her baby.

The most important causes of death among children under one year are given in Table 12. As compared with the average rate for the four previous years, the only disease which shows a marked increase is Measles, while on the other hand Diarrhœa shows the most noticeable decrease.

ZYMOTIC DISEASES.

	Average of 5 years.	
	1902.	1897-1901.
Total number of deaths in Rhondda from Zymotic Diseases	389	459
Zymotic death-rate for Rhondda	3.32	4.1
Zymotic death-rate for 76 Large Towns	2 12	
Zymotic death-rate for England & Wales	1.64	2.1

The following diseases are grouped together under the term Zymotic Diseases :--Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Typhoid and other continued Fevers, and Diarrhœa.

In common with the country in general the zymotic death-rate in this district fell considerably, both as compared with the previous year as well as with the average for the last five years.

The position of the Rhondda still remains unsatisfactory, for it occupies among the 76 large towns the 70th position in the comparative table 14 in the appendix. The diseases which contributed most largely to the total for the year were measles, diarrhœa, and diphtheria, each of the two former having caused 109, and the last-mentioned 81 deaths. (Table 16).

A comparison of the rates pertaining to the several wards makes manifest the facts that Ward 6 with a rate of 2·1 per 1000 of the population occupies the best position, while Ward 10 with a rate of 4·6 appears in the most unfavourable light (Table 19).

Fuller information concerning the several diseases which go to form the zymotic group will be found in the pages of the report allotted to the particular diseases.

SMALL-POX.

	1902	Average of 5 years 1897—1901
Total number of deaths in Rhondda	1	—
Death-rate for Rhondda... ..	.008	—
Death-rate for 76 large towns ...	.12	—

The general prevalence of this disease throughout the country served as a constant menace to this as well as to other districts during the year. The danger to the Rhondda was accentuated by the fact that the disease was especially prevalent at Swansea and Merthyr. Indeed the disease became so general and widely distributed that very few districts in the County of Glamorgan remained entirely free throughout the year.

With the exception of a single case in 1900, Rhondda had enjoyed an entire freedom from the disease since the adoption of the Notification Act in 1894.

The year now under consideration however witnessed the introduction of this disease into the district on four separate occasions, the total number of cases amounting to seven, three of the introductions being limited to one case each, while the fourth was responsible for four cases.

A brief history of these cases will probably prove of interest.

(1) On the 26th of April, J.W., High Street, Cymmer, was found to be suffering from a well-marked form of small-pox. The disease quickly assumed the hæmorrhagic form and the patient died three days after admission into the hospital. It was ascertained that the patient had visited Aberdare on Saturday, the 12th of April, and while there, had been for $2\frac{1}{2}$ hours in close contact with a man who was removed, two days later, to the Aberdare hospital suffering from a mild form of small-pox. The latter's face presented a "pimply" eruption on the 12th. J.W. sickened on the 21st, and eruption appeared on the 24th, so that the incubation period was but nine days in this case.

An examination of the patient's arm showed one small but foveated vaccination mark, as the result of an operation performed in infancy. The deceased had never been re-vaccinated, but he stated that from fourteen to twenty years ago he had been, on several occasions, in close contact with persons suffering from small-pox. It seems fair to draw the inferences that the potency of the protection afforded by vaccination, imperfectly though that operation had been performed, was sufficient to ward off small-pox for many years and that successful re-vaccination performed during adolescence or later would almost certainly have saved another life if not another illness.

No secondary cases arose in connection with this case.

(2) On Friday, the 1st of August, A.P., from Halifax Terrace, Treherbert, was ascertained to be suffering from small-pox. The illness ran the ordinary course of discrete modified small-pox. The patient bore three fairly well-marked pitted scars and a fourth indistinct one, all of which were the result of a successful vaccination performed in infancy.

In this case the disease appears to have been imported from Swansea, where small-pox was then prevalent. On the 11th of July, a visitor from that town arrived at A.P.'s house and the latter fell ill on the 29th or eighteen days later.

There were very strong reasons for believing that the person here mentioned as having come from Swansea had herself suffered from a mild and unrecognized form of small-pox during her stay in that town and that she made the journey to Treherbert while still in an infectious state or while some of her clothing retained infection. This belief was supported by the fact that although she was re-vaccinated three times after the removal of the patient to the hospital each operation was unsuccessful.

At this time she was twenty-one years of age and was successfully vaccinated when a child. The period between the arrival at Treherbert of the visitor from Swansea and the onset of the illness is longer than the usual incubation period of the disease, but it is possible that the association of the patient and the visitor was not a close one for some days after the advent of the former to the the Rhondda.

No secondary cases occurred.

(3) During the last week in October and the first week in November four cases occurred in Clydach Vale. The first of the series was J.W., Evans Terrace, Clydach Vale. He had moved into this street on the day of the onset of the illness—27th of October. Previously he had stayed at a house in Marian Street, Clydach Vale, at which two more cases, mother and daughter, occurred. The onset of the illness in the case of the former fell on the 29th, and in the case of the latter on the 30th of October.

On the 3rd of November a fourth case was reported as having occurred in Court Street, Clydach Vale. The three first-mentioned cases had doubtless a common origin which was not discovered.

There appeared to be no connection between the last of the series and the other three.

All the persons in this group had been vaccinated in infancy, and all showed four scars except W.J., who had only two. None of the four had been revaccinated.

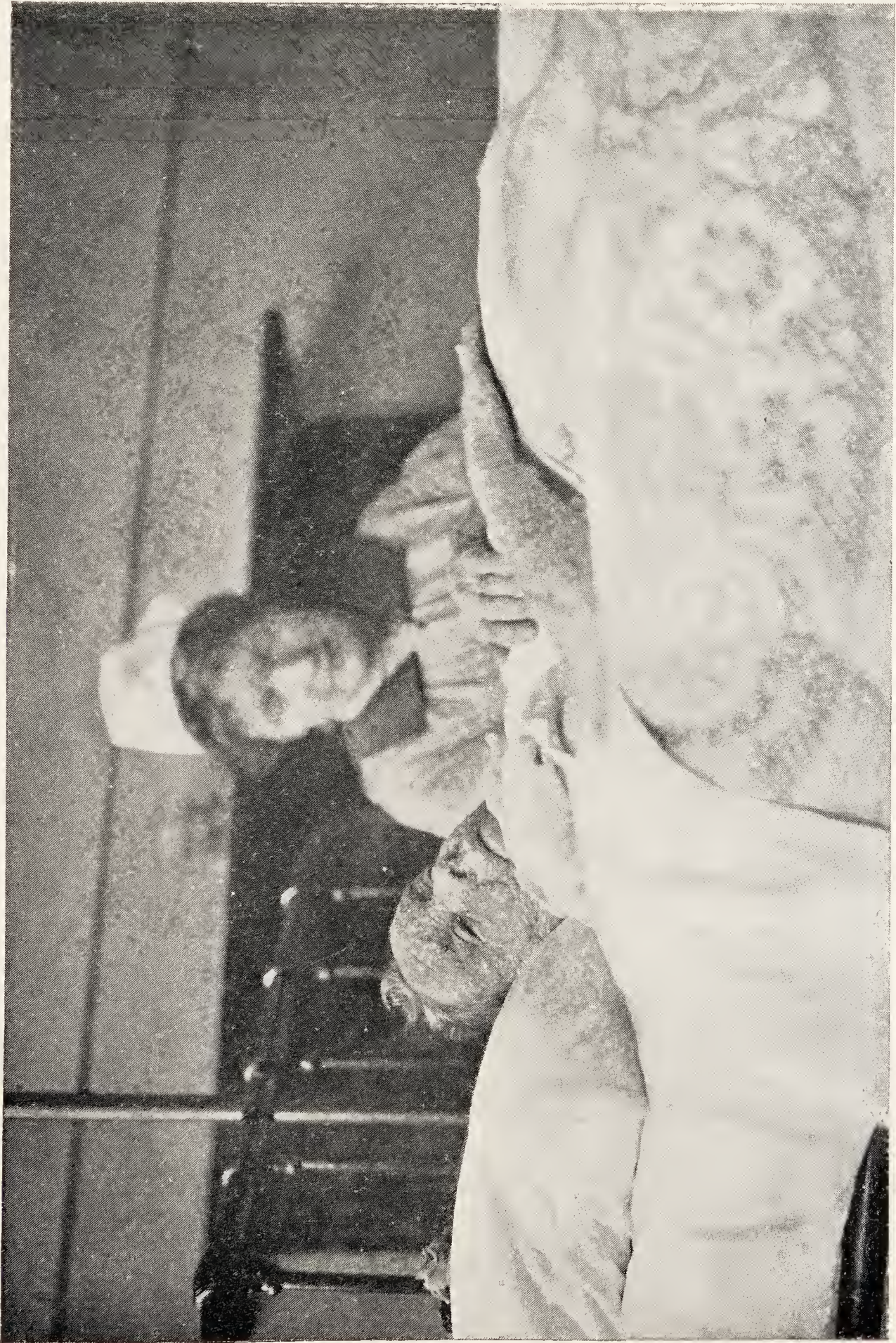
There were no secondary cases in this locality.

(4) On the first of December there was received a notification of a suspicious case of small-pox at the Pit Hut, Maerdy. On the 14th of November, the patient left her home for Dowlais, Merthyr, where small-pox then prevailed. On the 26th she was taken ill with the symptoms which usually characterize the onset of this disease. She was not seen by a doctor but on the 29th the symptoms were so much less severe that she travelled by train on that day from Merthyr to Maerdy. On the evening of the same day the eruption appeared on the face.

Some difficulty was experienced in the removal of this case to the hospital on account of the inaccessibility to conveyances of the infected house, and we were compelled to invoke the aid of the Local Colliery Co., who kindly lent us a colliery engine and a few trucks, by means of which both the patient and the infected clothing were conveyed a distance of half a mile before more appropriate conveyances could be utilized.

The patient's arm showed four fairly distinct vaccination scars, the result of successful vaccination in infancy.

INITIALS.	Age.	Sex.	Date of Onset.	Date of Removal to Hospital.	Date of Discharge or Death.	No. of Days in Hospital.	Type of Disease.	Period of Primary Vaccination.	No. of Marks.	Total Aggregate Area of Marks.	Whether Re-vaccinated.	REMARKS.
J.W.	44	M.	April 21	April 26	April 30	3	Sub-vesicular hæmorrhagic.	Infancy	1	$\frac{1}{8}$ -in.	No	Fatal.
A.P.	36	F.	July 29	Aug. 1	Sep. 27	58	moderately severe, discrete modified	Infancy	4	$\frac{1}{2}$ -in.	No	Recovery.
W.J.	36	M.	Oct. 27	Oct. 31	Dec. 24	54	severe discrete modified	5 years	4	$\frac{3}{4}$ -in.	No	Recovery after corneal ulceration
M.A.D.	48	F.	Oct. 29	Nov. 1	Dec. 10	39	moderately severe discrete modified	6 weeks	2	$\frac{1}{4}$ -in.	No	Recovery.
H.D.	14	F.	Oct. 30	Nov. 1	Dec. 10	39	discrete modified	6 weeks	4	$1\frac{1}{4}$ -in	No	Recovery--onset severe but scanty eruption.
M.D.S.	21	M.	Oct. 31	Nov. 3	Dec. 10	37	mild discrete modified	Infancy	4	$1\frac{1}{2}$ -in	No	Recovery
E.A.	18	F.	Nov. 26	Dec. 2	Dec. 24	22	discrete modified	Infancy	4	$\frac{7}{8}$ -in.	No	Recovery



One of the seven patients at the Hospital. A typical case of discrete modified Small-pox.

The patient was not known to have visited any infected house or to have come in contact with any infected person at Dowlais, but it is noteworthy that she was seized with the initial symptoms of the disease exactly 12 days after her arrival at that town.

No secondary cases occurred.

Owing to the prevalence of small-pox throughout the country generally, it was thought advisable to take precautions which had not been considered requisite in former years, and appended will be found in brief outline the most important.

(1) While the year was yet new, a letter was sent to each of the 49 or 50 medical men practising in the district, to invite from them early intimation by telephone or telegram of any case presenting symptoms resembling those of Small-pox.

(2) Reprints of an article by DR. T. D. ACLAND, setting forth the influence of vaccination and re-vaccination on the incidence of, and the mortality from, the disease, were distributed amongst ministers, teachers, and other prominent citizens, to many of whom our thanks are due for making known to their friends and others the nature of the message conveyed by the article. Copies were also deposited in the workmen's libraries throughout the district and each was accompanied by an explanatory letter.

(3) Whenever it was ascertained that it was contemplated by large parties such as choirs, Sunday schools, clubs, &c., to make excursions to towns or districts where small-pox was prevalent, the nature of the risks which would be incurred by them in undertaking such journeys was pointed out to them. The warnings so given were not discarded in a single instance.

The steps which it was thought advisable to take with the object of preventing the spread of the disease after the occurrence of one or more cases may now be briefly mentioned.

(1) All cases were, as rapidly as possible, removed to the Council's Old Hospital, the opening of the new one in March having rendered the old one available when the first case occurred in April.

(2) Disinfection, after removal of the patient, of the room or rooms presumably infected before removal. The disinfection was carried out in as thorough a manner as possible, the process being made to include stripping of the paper (if any) from walls, spraying with solution of perchloride of mercury, lime-washing where practicable, aerial disinfection by means of formaldehyde, followed by complete cleansing of the domestic kind. Each step was carried out by, or under the direct supervision of, the Sanitary Inspector in whose district the disease may have occurred. All infected clothing capable of being disinfected by means of steam was conveyed in special vans to the disinfector to be so treated, and all useless articles were burnt.

(3) All the "contacts" were urged to protect themselves by being vaccinated or re-vaccinated, with the exceptions of those who had suffered from the disease, and of children under ten years of age showing good vaccination marks. All those known to have been exposed to infection, at the first opportunity in most cases, but after some little delay in the case of a few, were prevailed upon to undergo the operation. In accordance with the instructions of the Health Committee, a promise had to be made in some cases that compensation would be allowed for loss of time in the event of the operation being the cause of inability to work for one or more days. The ascertained "contacts" with one or other of the seven cases numbered 78, none of whom contracted the

disease. The effects of re-vaccination were sufficient in many cases to disable the subjects for several days.

Owing to the character of the outbreak of the disease at Clydach Vale, in the sense that there were at least three *foci* whence the disease might spread, special precautions were adopted.

A special meeting of the Health Committee was convened and the Surveyor received instructions to immediately draw up specifications and plans, and to obtain tenders for additions to the old hospital with provision for 14 additional beds.

The Guardians were immediately communicated with and were asked to provide two special vaccination stations at convenient situations in the infected area. They held a special meeting for the purpose of granting the request, the consent of the Local Government Board having in the meantime been obtained. The stations were kept open for six weeks, and during that time 350 primary vaccinations and 462 re-vaccinations were performed by Dr. W. W. DAVID, the Public Vaccinator. The number of those who were vaccinated or revaccinated by other medical men is not ascertainable.

With the consent of the School Board, the children in the schools in the infected district were examined as to their condition in respect of vaccination. In this way, 5,820 children were inspected, and of these 263 or 4.5 per cent were found unvaccinated, and their names and addresses were taken by Mr. GEORGE WILLIAMS, the Vaccination Officer or his deputy. In the course of this inspection an account was kept of those whom I considered inefficiently vaccinated. An opinion as to the efficiency or inefficiency of the operation was based upon an estimate of the total area and of the character of the marks.

Under the circumstances an exact measurement of the marks would have entailed the expenditure of more time than was at my disposal, and the the method was therefore a rough and ready one. Out of the total of 5,557 vaccinated children, 639 or 11·5 per cent were considered to be inefficiently vaccinated.

It was also noticed that the proportion of those considered inefficiently vaccinated was greatest in the infants' departments, the inefficiency taking the form of a want of foveation rather than a deficiency in the total area or number of the marks; indeed in the case of many of the infants the scars were so indistinct as to be seen with difficulty.

A possible explanation of this fact may be that the lymph supplied to the Public Vaccinators during the first few years after the recent Vaccination Act came into force was wanting in potency. On the other hand, the effects of the lymph employed during the time of the outbreaks of the disease were excellent in the vast majority of the cases which came under my observation.

On the occurrence of the only case at Mardy, similar precautions were taken. A Vaccination station was open daily for a couple of hours, over a period of five weeks, and 103 primary vaccinations and a like number of re-vaccinations were performed. School children to the number of 949 were examined and 4·2 per cent were found to be unvaccinated and 15·0 per cent inefficiently vaccinated, the same method being adopted as in the case of the Clydach Vale outbreak.

It was ascertained that about 50 per cent of the unvaccinated children had been born outside the district, not a few of them having come from America and Scotland. Very few possessed exemption certificates, and the parents of the vast majority of the unvaccinated took early opportunities to give their children the protection against small-pox which vaccination affords.

Advantage was taken of the inspection of school-children to disseminate amongst the people, in the form of circulars, a few facts concerning the mode of onset, the character, and the prevention of small-pox (See Appendix). Each child at all the schools visited was given one of these circulars with the request that it should be taken home for the parents' perusal.

It may not be out of place to mention here the extent to which you as the Sanitary Authority for the district are indebted to all those for whose co-operation I had occasion to appeal during the anxious times at which the disease was present amongst us, especially to the Public Vaccinators, Drs. DAVID, JOYCE, PARRY and WARBURTON, to Mr. GEORGE WILLIAMS, the Vaccination Officer, to the Guardians, and to the School Board and their staff, without whose organized assistance an inspection of the children would have been impracticable.

The experience derived from even the limited outbreak or series of outbreaks with which we had to contend during the year has served to lend support to conclusions formed after other epidemics and to indicate the directions which our efforts should take in providing the means wherewith to successfully cope with any possible outbreaks in the future.

(1) In the first place, contrary to the experience of the country in the pre-vaccination days, the disease is now mainly a disease of adults. The youngest of the persons stricken by the disease in the Rhondda during the year was 14 years of age.

Children are not so readily attacked as adults because they are better protected by more recently performed vaccination.

The one question in connection with small-pox with which you as a Sanitary Authority are now more immedi-

ately concerned and which has hitherto been inadequately dealt with is the provision of a small-pox hospital.

It is true that our old hospital served for the needs of the attacked persons themselves during the year, but we cannot always expect to be so fortunate as to prevent any extension of the disease after its introduction into the district, and it is easy to conceive how very difficult it would be to effectually cope with the disease and how serious its ravages might prove to be, were it to obtain a firm footing and to exceed the limits of the accommodation at present provided.

Moreover, strong evidence has been adduced since the recent prevalence of the disease in support of the long-held opinion that the essential cause of the disease may be conveyed by and through the air for long distances and may thus infect persons living at some distance from the source of infection. In the face of such evidence we are obviously running much risk in admitting patients suffering from small-pox into the old hospital, situated as that is not very many yards away from the Council's new hospital, which not unfrequently contains from 30 to 50 patients as well as a number of nurses and servants.

(-) The older the patient the more severe was the disease. Those over 35 years of age suffered much more severely than the other three, the eldest of whom was 21 years of age. The only fatality was in the case of the man of 44 years.

(3) The more efficient the vaccination the greater was the protection against severity of attack as well as against a fatal issue. The man who died was the least efficiently vaccinated of the seven.

(4) None of the persons attacked had been re-vaccinated.

Notwithstanding the great readiness with which all concerned lent their aid, some delay was on one or two occasions caused by the defects, from a public health standpoint, which exist in the present system of administering the Vaccination Acts. The main difficulty arose when efforts were being made to arrange for the immediate vaccination or re-vaccination of all "contacts". It was found that unless that was effected before the disinfection practised after removal of the patient, a feeling of false security was engendered in those previously exposed to infection, and a great deal of persuasion was required to convince many of them that the mischief might have already been done, and that vaccination or re-vaccination was urged upon them with the object of counteracting the effects of any possible infection which might have already taken place but which had not yet had time to culminate in an attack of the disease.

In view of the necessity which will arise next year on the expiration of the tentative period of the present Act to reconsider the question of vaccination and re-vaccination, it is advisable to make as well-known as possible the conclusions which one is compelled to arrive at after an experience of small-pox outbreaks.

With the object of furthering the dissemination of a knowledge of such conclusions, I give in the Appendix a copy of the Resolutions adopted at a meeting of the Incorporated Society of Medical Officers of Health recently held in London. I may add that these have been considered and approved by men whose knowledge and experience render them peculiarly competent to discuss with advantage to the community such problems as the prevention of small-pox and other epidemics, as they have spent the greater portions of their lives in combatting or in preventing such avoidable occurrences.

MEASLES.

				Average of 5 years. 1897-1901	
		1902			
Number of deaths		109	...	56	
Death-rate per 1000 Rhondda	..	·9	...	·45	
„	„ 76 large towns	·50	...		
„	„ England and Wales	·38	...	·30	

In marked contrast to last year, during which only three deaths occurred, the year now under consideration witnessed a general prevalence of measles in the Rhondda, which resulted in the occurrence of 109 deaths. This number has not been exceeded except on three occasions during the last 20 years, although the death-rate from measles in proportion to the population has been higher on four occasions during the same period.

The number of deaths is but a rough indication of the number of cases which occurred, for the fatality-rate varies considerably in different epidemics. If 10 per cent be taken as an average fatality-rate, the occurrence of 109 deaths signifies that 1090 children were attacked by this disease throughout the year.

As usual, broncho-pneumonia was the immediate cause of death in the large majority of the fatal cases. The sanitary condition of an infected house and of its surroundings exercises an important influence upon the severity of the disease, and it is the common experience to find that with a favourable environment and intelligent attention on the part of the parents, the dangerous character of the disease is much lessened. The steps which we were able to take with the hope of checking the spread of the disease were very few and consisted mainly in the house to house distribution, in the infected areas, of printed circulars containing some in-

formation concerning the dangerous character of the disease and some of the means which should be adopted for the purpose of attempting to obviate a fatal issue.

It is surprising to find how many persons still regard the occurrence of the disease as inevitable and think that "the sooner the trouble is over the better." They not unfrequently express surprise if not incredulity when told that if the disease be warded off until the child reaches about four years of age the tendency to a fatal issue of the disease is very greatly diminished. The prevalence first became noticeable in Ward 8, especially Porth and Hafod where nine deaths had occurred in the two first months of the year. In April the disease became general throughout the district, all the wards being more or less equally involved. The prevalence continued throughout the summer months, but the epidemic was practically at an end in September, only one death occurring in the last quarter. Out of the total of 109 deaths, 38 or 35 per cent were under one year of age, while no fewer than 103, or 94 per cent, were under four, and no death of any person above 5 years of age occurred. (Tables 16, 17, 18 and 19 in appendix.)

SCARLET FEVER.

				Average of 5 years.	
				1902.	1897-1901.
Number of cases	...	...	...	833	947
Number of deaths	...	...	...	27	24
Death-rate per 1,000, Rhondda	...	...	...	·23	·21
Death-rate per 1,000, 76 Great Towns	...	...	...	·19	—
Death-rate per 1,000, England and Wales	...	...	...	·15	·12

Although Scarlet Fever was very much less prevalent during 1902 than during the two previous years, there were notified 833 cases of the disease during the year, as compared with 1393 and 1828 in 1901 and 1900 respectively. (Table 22.)

The seasonal incidence of the disease was fairly uniform, no particular season showing a marked prevalence, but the latter half of the year, as a whole, compared unfavourably with the first six months (Table 24).

Out of the total number, 203 or 24 per cent were secondary cases, a proportion which is identical with that obtaining in the previous year (Table 26).

As in former years, it is found that the number of occupants in each infected house was, on the average, nearly one person per house more than the average for the whole district, the latter being at the last census 5.9 and the former 6.7 persons per house (Table 28)

The mortality from this disease was rather higher than the average for the 76 great towns, the rates being .23 and .19 per 1,000 respectively.

The fatality (mortality per cent of cases) was only 3.2 so that the disease occurred in a mild form.

All the cases, in the absence of hospital accommodation, were necessarily treated at home, so that it is not surprising that nearly one-fourth of the cases were secondary to previous ones, for the conditions usually obtaining in this district render strict isolation impossible.

At the end of the year, there were 83 cases in 63 houses as compared with 94 cases in 77 houses at the corresponding time of the previous year (Table 23).

WHOOPIING COUGH.

				Average of 5 years.	
				1902.	1897-1901.
Number of Deaths	...	...	...	40	49
Death-rate per 1,000, Rhondda	...	...	...	·34	·44
Death-rate per 1,000, 76 Great Towns	...	...	...	·37	—
Death-rate per 1,000, England and Wales	...	...	...	·29	·31

The four first months of the year witnessed a continuation of the prevalence of this disease which existed during November and December of 1901.

Altogether 40 deaths occurred throughout the year, 33 up to the end of April and only 7 during the eight remaining months.

Wards 1 and 2 with 10 and 8 deaths respectively suffered most heavily, but only Wards 5 and 8 escaped from contributing any deaths to the total.

The mortality-rate for the whole district was ·34 per 1000, and was thus lower than both the rate for the 76 great towns and the average rate for the district for the last five years.

More than one-half (51 per cent) of the fatal cases were under 1 year of age and only two exceeded 4 years of age at the time of death.

Of the fatal cases, 25 belonged to the male, and 15 to the female, sex. (Tables 18 and 19.)

DIPHTHERIA.

				Average of five years. 1897-1901
1902				
Number of cases	...	...	757	1032
Number of deaths	...	...	81	134
Death-rate per 1,000 Rhondda	...	...	·69	1·22
„	„	76 Great Towns	·26	—
„	„	England & Wales	·23	·26

It is very satisfactory to be able to record a very material diminution in the extent of the prevalence of this disease in the district as compared with recent years. The number of cases, as may be seen above, is considerably below the average for the five previous years, and is also lower to the extent of 126 cases than the number for any year since 1897 (Table 33).

The death-rate from diphtheria in 1902 is also the lowest recorded since 1896 (Table 17). This improvement has taken place concurrently with a similar but much less marked betterment in the country generally. While for the country as a whole the difference between the average death-rate for the last five years and that for 1902 amounted to ·03 per 1000, the corresponding difference for the Rhondda is ·53 per 1000.

For the last four years the fatality (mortality per cent of the cases) has remained practically stationary, the variation during that period amounting to only 1·6 per cent,—the difference between the 10·3 of 1899 and the 11·9 of 1901 (Table 35). This improvement is concurrent and co-extensive with the period during which the use of antitoxine as a remedy has become general throughout the district. It may be also that the type of the disease has become milder and that it is more generally recognized that many mild forms of sore throat are really diphtheritic in character. In

this connection it is satisfactory to note that the medical men of the district are making freer use of the advantages bestowed upon the county generally by the County Laboratory in the diagnosis of doubtful cases, and it is to be hoped that the advantages will, in the future, be even more freely made use of than formerly.

The year under review offers us the first opportunity to consider the influence (if any) exercised by the use of the Council's new Isolation Hospital upon the incidence and mortality of this disease.

The fact that the Institution was not ready for the reception of Diphtheria patients until June enables us to compare the statistics of the first half with those pertaining to the latter half of the year.

In the first place, the incidence of the disease was less throughout the period during which cases were admitted into the hospital than during the first portion of the year, 60 per cent of the total having occurred before the end of June. This proportion is in marked contrast to the experience gained during the four previous years for, taking the average for these years, 46 per cent occurred during the first portion and 54 per cent during the second moiety of each year.

In the second place, the beneficial influence of isolation may be expected to show itself upon the number of secondary cases in relation to the total number notified. During the years of which we have records in this respect, 21 per cent of the cases were secondary, and during the first half of the year 1902, i.e., the time during which no Diphtheria cases were admitted into the hospital, the proportion of secondary to the total number was 20 per cent, whereas during the last six months of the year the proportion fell to 11 per cent.

Moreover, the influence, as a preventive measure, of removal of infectious cases to the hospital is not limited to the prevention of secondary cases, for the danger arising from the existence of a case extends to persons other than those who occupy an infected house. This danger mainly has its origin in the want of consideration for others so often shown by those in attendance upon infectious cases in allowing other persons to visit infected houses.

The influence of personal infection in the spread of Diphtheria is well exemplified by a series of six cases investigated by Inspector W. WILLIAMS. On July 6th, a case occurred at 10 Hopkin Street, Treherbert; during the three following weeks four more cases occurred in three neighbouring houses, and, unfortunately, one of these proved fatal. It was definitely ascertained that, notwithstanding the verbal and printed instructions given by the Inspector to the inmates of each house, frequent intercommunication took place between all these houses. A week later another case was notified—this time at Cwmparc,—and inquiries elicited the fact that the patient had, on several occasions, visited one of the infected houses at Treherbert, and had ministered to the wants of the patient therein.

The facts here given indicate that the hospital, even during the short time it has been at the disposal of the public, has shown its value in the prevention of disease as well as in greatly relieving many families of the suffering imposed upon them by the occurrence of this dangerous infectious disease in their midst.

In the course of the short time which has elapsed since the opening of the hospital, it has been thought advisable, on four separate occasions and for four distinct periods, to partially suspend the admission of diphtheria cases into the hospital on account of the existence at such times of small-

pox in the district and at the old hospital. The admission of patients at such junctures would have involved a double risk,—in the first place, owing to the want of anything like adequate accommodation at the old hospital for the reception of any large number of small-pox cases, it might have proved necessary to utilize the new one in the event of the occurrence of an epidemic of that disease. In the second place, on account of the proximity of the new to the old hospital, and in face of the evidence adduced concerning the aërial convection of small-pox infection as well as of the possibility of the occurrence of direct infection under the relative conditions obtaining at the two hospitals, it was thought undesirable to admit any save those placed under such unfavourable conditions that it was preferable to run the additional risk consequent upon the presence of small-pox.

During the time that the Diphtheria Pavilion was available 58 cases were treated therein. Two deaths occurred, giving a fatality of only 3·4 per cent as compared with 11·3 per cent for the cases not admitted into the hospital. The institution therefore appears to have exerted a direct as well as an indirect influence in the lowering of the mortality from diphtheria in the district, doubtless owing to the superior nursing and to the more favourable conditions obtaining at the hospital.

Before the discharge of any patient from the hospital, the throat was examined for the presence of the organism which is the essential cause of the disease and all were retained at the hospital until bacteriological examination afforded reasonable proof that the organism was absent, and that therefore the particular patients examined were no longer in an infectious state.

In this connection I cannot speak too highly of the great benefits derivable from the facilities afforded for the performance of these examinations by Dr. WILLIAM WILLIAMS and his staff at the County Laboratory.

The reliability of the work done thereat is indicated by the fact that none of the cases discharged from the hospital gave rise to the occurrence of other cases at the houses to which the convalescents were dispatched on leaving the hospital. It is difficult to over-estimate the advantages accruing from the use of such an institution as the County Laboratory, for ordinary clinical examination was incapable of detecting the (to others) dangerous condition of many of those who were subsequently found by bacteriological examination to harbour in their mouths or throats the diphtheria bacillus.

As in the case of Scarlet Fever, the same excess over the average number of occupants in each house was noticed in the Diphtheria infected houses, the degree of the excess being the same in both diseases. (Table 30.)

For the ages of those attacked see Table 31 in the appendix.

For the ages and number in the different wards see Table 32.

For the seasonal incidence and number of deaths see Table 33.

For the ages and case death-rate see Table 34.

For the number of notifications in the 10 Wards, and the fatality in the whole district for all years since 1894 see Table 35.

TYPHOID FEVER.

				Average of 5 years.	
				1902.	1897—1901.
Number of Cases	...	...	...	117	28·2
Number of deaths	...	...	..	22	40
Death-rate per 1,000 for Rhondda	...	...	...	·18	·36
„	„	„	76 Great towns	·15	—
„	„	„	England & Wales	·13	·17

The year 1902 has established a record in the history of Typhoid Fever in the district, for the mortality from this disease was the lowest recorded for at least 25 years, while the absolute number of cases notified was lower by 36 than the number in the most favourable year since the adoption of the Notification Act in 1894.

The incidence of the disease was 1 in every thousand of the population.

There were 22 deaths registered as having occurred throughout the district, giving a fatality of 18·8 per cent of cases

After the opening of the new hospital in March, the typhoid pavilion was continuously occupied by patients suffering from this disease. Altogether 47 cases, or 40 per cent of the total, were treated at the hospital, and 7 died, a fatality of 14·9 per cent being thus occasioned. If the number admitted into the hospital be excluded from the total, the fatality for the remainder stands at 21·4 per cent. These comparative figures furnish another illustration of the great importance of skilled nursing in the treatment of this disease.

At no time in the course of the year was there anything of the nature of an epidemic in the district although certain portions contributed much more largely than others to the total, and at no season was the disease exceptionally prevalent (Table 36 and 37). As in the previous year the group of houses in No. 1 ward, known as Blaenycwm, contributed more than its share in proportion to the population, for practically one-fifth of the total occurred in this locality, although the population bears to that of the whole district the ratio of 1 to 230. The heavy incidence of the disease in this village appears to have been due to the unsatisfactory water supply, surface-collected as it is from the sloping hill-

side on the south side of the village. The gathering area is traversed by a path which is much frequented by workmen passing to and from some coal levels close by. No attempt is made to purify the water by filtration or otherwise before it is used for domestic purposes.

At the time of writing the Health Committee has under consideration the different means of providing a better supply to this group of 90 houses.

As may be expected Ward 1, embracing as it does the village of Blaenycwm, was the portion of the district most affected during the year although wards 4 and 10 with 20 and 19 cases respectively, were not far removed from it in this respect (Table 36).

No ward remained entirely free from typhoid fever throughout the year, but ward 2, with a single case, narrowly escaped occupying that desirable position (Table 36).

As in the case of diphtheria, so also in the case of typhoid fever, the assistance of DR. W. WILLIAMS and DR. W. G. SAVAGE, of the County Laboratory was not infrequently sought in order to arrive at a diagnosis of certain anomalous and mild forms of the disease, whose nature is often so difficult to recognize. On several occasions we were thus enabled to take all the necessary precautions against the spread of the disease at an earlier date than would have been possible without the assistance which the application of Widal's test affords.

DIARRHŒA.

				Average of 5 years.	
				1902.	1897-1901.
Number of deaths	...	...	...	109	156
Death-rate per 1000 for Rhondda	...			·90	1.40
Death-rate per 1000 for 76 Great Towns				·54	—
Death-rate per 1000 for England and Wales				·38	·89

This disease proved to be much less destructive than during the previous year, the rate being only one-third as high. Indeed, in this respect, as in so many others, the year under review compares favourably with all years since 1897 (Table 17.) This improvement was experienced throughout the country although not to the same extent as in the Rhondda,

There occurred during the year 109 deaths from this disease. 82 or 75 per cent of which were of children under one year of age.

So exceedingly prevalent and deadly has this disease been in this district for many years that the Health Committee instructed me to draw up for circulation a number of suggestions upon the feeding of infants for the guidance of inexperienced and ignorant mothers. The distribution of these was begun towards the end of 1901, and the statistics for 1902 ought to afford some indications as to whether the labour involved and the expense incurred have been justified by the results.

It is tempting to attribute the diminished mortality from this disease in the Rhondda, at least in part, to the more rational modes of feeding which may have been adopted by many mothers as a consequence of the information contained in the suggestions. Inasmuch however as the diminution in the mortality from diarrhœa has been general throughout the country, doubtless owing mainly to the much lower temperature experienced throughout the summer and autumn, it would be

taking too favourable a view of the effects of the hints on feeding to ascribe to them entirely or even mainly the better statistics given at the head of this section. A fairer method would be to inquire as to whether any change has occurred in the relative heights of the death-rates from diarrhoea in the various sub-divisions of the district. In order to make such a comparison possible, it was decided, in arranging the distribution of the pamphlets, to take advantage of the fact that the whole district includes, in addition to Ystradyfodwg, portions of 2 other registration sub-districts. The distribution was made only by MR. GEORGE WILLIAMS the Registrar for Ystradyfodwg, so that the portions of the Rhondda in Llanwonno and Llantrisant sub-districts have not in any way been affected. If therefore the suggestions on the cards have been instrumental in saving life, one would expect Ystradyfodwg to have suffered relatively less than those portions of Llanwonno and Llantrisant lying in the Rhondda Urban District.

1901.

No feeding cards distributed.

SUB-DISTRICT.					DEATH-RATE	
	NO. OF		NO. OF		PER	
		BIRTHS.		DEATHS.	1000 BIRTHS	
Ystradyfodwg	...	3599	...	267	...	74
Rest of District	...	987	...	57	..	58

1902.

Feeding cards in Ystradyfodwg only.

Ystradyfodwg	...	3880	...	85	..	22
Rest of District	...	1057	...	23	...	22

It would seem from these figures that the number of deaths from diarrhoea in Ystradyfodwg has been lowered, in relation to that in the rest of the district, so that instead of the rate being 16 per 1000 births higher as in the previous year, it has been reduced to the level of that for the remainder of the district.

As far as can be ascertained, the other conditions obtaining in the two portions of the district dealt with were in no way different in the two years in respect of which the comparison has been made.

If this relative improvement in the rate for Ystradyfodwg can be fairly ascribed to the suggestions, it is certainly a sufficient justification for the expense incurred and for a continuance of the distribution in the future.

Moreover it is not only in the diminished number of deaths from diarrhœa that an improvement may be expected, for proper feeding, especially during infancy, serves to prevent many attacks of diarrhœa which, though not fatal, often sap the vitality of the tender-aged sufferers, interfere with their subsequent development, and render them less able to withstand the inroads of other diseases which they may contract later in life.

PUERPERAL FEVER.

				Average of 5 years.	
				1902.	1897-1901.
Number of cases	...	...	...	43	30
Number of deaths	...	...	...	23	12
Death-rate per 1,000 for Rhondda	...	...	...	·19	·10

The number of cases of Puerperal Fever notified during the year amounted to 43 and exceeds by 13 the average for the last 5 years. Of this number 23 died, a fatality of 53·5 per cent of cases and a mortality of ·19 per 1000 of the population being thus occasioned.

During the year the Midwives Act was passed. This measure, in the course of time, cannot but exercise a prophylactic influence upon the occurrence of cases of Puerperal

Fever in this district. At present the large majority of women are attended at child-birth by midwives, very few of whom possess any of the special knowledge required except that gained from experience.

This Act will come into force on the 1st of April 1903, and is meant for the protection of the public against midwives of the "Gamp" type.

Appended are given the most important provisions of the Act.

SEC. 1. (1) No woman shall take the title of "Midwife" after 1st of April, 1903, unless certified under this Act, under a penalty on conviction, of a fine not exceeding £5.

(2) No woman shall habitually practise as a midwife after the 1st of April, 1910, unless certified under this Act.

SEC. 2. Up to the 1st of April, 1905, any woman shall, on her requesting it, be certified under the Act, if she already holds an approved qualification in midwifery, or produces evidence of having been in *bona-fide* practice prior to the 1st of August, 1901.

SEC. 3. A Central Midwives Board is to be formed, of nine members.

The duties of the Board will be :—

- (1) To frame rules as to training, examination, certification, &c.
- (2) To appoint Examiners.
- (3) To hold Examinations.
- (4) To publish annually a roll of all duly qualified midwives.

- (5) To adjudicate on cases for suspension or reduction, and generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this Act.

SEC. 4. Any midwife aggrieved by any decision of the Central Midwives Board removing her name from the roll of midwives, may appeal to the High Court of Justice.

SEC. 5. The Central Midwives Board is to pay its expenses out of fees charged for certification (maximum fee £1 1s.).

Any deficit to be recovered from County Councils *pro rata* according to the number of practising midwives.

SEC. 6 provides for the keeping of a roll of certified midwives.

SEC. 7. The above roll to be kept by a Secretary appointed by the Central Midwives Board, and approved by the Privy Council.

SEC. 8. Every County Council shall, after the 1st of April 1903, be the Local Supervising Authority over Midwives in its area, the duties being as follow :

- (1) To exercise general supervision over Midwives under the rules to be framed by the Central Midwives Board.
- (2) To investigate misconduct, &c., and report to the Central Midwives Board.
- (3) To suspend any Midwife, under the rules of the Central Midwives Board.
- (4) To report convictions of Midwives to the Central Midwives Board.

- (5) To send to the Central Midwives Board every January, a list of the Midwives who have notified their intention to practise. To keep a copy of the current roll for inspection.
- (6) To report deaths of Midwives to the Central Midwives Board.
- (7) To give due notice of the effect of the Act to all persons who at present are using the title of "midwife."

SEC. 9. The County Council may delegate any powers—with or without restrictions—to any District Council, and the latter may then appoint a Committee, with or without co-opted members. The County Council must pay the expenses of the District Council, but they may prescribe a limit, beyond which the District Council is to pay.

SEC. 10. Every midwife certified under this Act must notify the County Council of the area in which she resides or practises, and must repeat such notification every January. The like notice must be given by the midwife to any other local supervising authority in whose area she at any time acts, within 48 hours of so commencing to act.

PHTHISIS.

				Average of 5 years.	
				1902.	1897-1901.
Number of deaths	...	...	...	99	99
Death-rate per 1,000 for Rhondda	...	...	...	·84	·91

Of the total number of deaths given above, 92 occurred in the district, 5 persons belonging to the Rhondda died at the Pontypridd Workhouse, and 2 at the Bridgend Asylum. There were 45 males and 51 females. Of any one occupation,

coal-mining claimed by far the largest number, viz., 27, equivalent to 27 per cent of the total, and to 60 per cent of the number of males. (Table 44.)

The distribution was fairly uniform throughout the district, no ward having more than 14, or fewer than 5 cases.

The first quarter claimed 31, the second 17, the third 26, and the fourth 15 deaths.

It is satisfactory to be in a position to note that the death-rate in the Rhondda from this disease has steadily diminished during the last 20 years as shown in Table 45. The rate recorded above as pertaining to 1902 is, with three exceptions, the lowest for at least 20 years. The average death-rate for the decennium 1882-1891 amounted to 1.12 per 1000, while that for the succeeding decennium fell to .89 per 1000 of the population.

This improvement is doubtless due, not so much to any measures specially directed against Consumption, but rather to the general improvement in the sanitary condition of the district, especially in respect of the structure, ventilation, and drainage of houses. During the last few years great activity has also been shown in the consideration and, in some cases, in the adoption of measures specially designed to lessen the ravages of this disease.

The character of these measures and the direction which our future efforts should take are indicated by a series of resolutions which were passed by the International Congress on Tuberculosis held in London in 1901, and which are as follows :—

That tuberculous sputum (or phlegm) is the main agent for the conveyance of the virus of tuberculosis from man to man, and that indiscriminate spitting should therefore be suppressed.

That it is the opinion of the Congress that all public hospitals and dispensaries should present every patient suffering from phthisis with a leaflet containing instructions with regard to the prevention of consumption, and should supply and insist on the proper use of a pocket spittoon.

That the voluntary notification of phthisis attended with tuberculous expectoration, and the increased preventive action which it has rendered practicable, has been attended by a promising measure of success, and that the extension of notification should be encouraged in all districts in which efficient sanitary administration renders it possible to adopt the consequential measures.

That the provision of sanatoria is an indispensable part of the measures necessary for the diminution of tuberculosis

That, in the opinion of this Congress, overcrowding, defective ventilation, damp, and general unsanitary conditions in the houses of the working classes, diminish the chance of curing consumption, and aid in predisposing to and spreading the disease.

That while recognizing the great importance of sanatoria in combating tuberculosis in all countries, the attention of governments should be directed to informing charitable and philanthropic individuals and societies of the necessity for anti-tubercular dispensaries as the best means of checking tubercular disease amongst the industrial and indigent classes.

INFLUENZA.

					1902
Number of deaths	...	...	...	..	20
Death-rate per 1000 for Rhondda			...	...	·17

The number of deaths registered throughout the year as due to Influenza amounted to 20, wards 10 and 3 claiming 8 and 3 respectively.

Half of the victims were between 25 and 65 years of age. Five deaths occurred in May, and 16 of the 20 were certified during the first six months of the year.

COLLIERY FATALITIES.

Number—44; equivalent to a death-rate of .37 per 1000.

The most common causes of these accidents are falls from the roofs, which were responsible for 25 deaths. A considerable number (15) met their death by being run over or crushed by a tram.

INQUESTS.

1902--115; equal to a death-rate of .98 per 1,000.

Apart from accidents associated with a colliery, the number of inquests amounted to 71 (Table 46).

THE FEVER HOSPITAL.

Accommodation :	New Hospital	...	32 beds.
	Old Hospital	...	4 beds.

During the year 112 cases were treated at the Hospital Diphtheria with 58 cases contributing the largest number of patients. Typhoid and Small-pox cases were also under treatment.

		NO. OF CASES.		NO. OF DEATHS.		FATALITY PER CENT.
Diphtheria	...	58	...	2	...	3.4
Typhoid...	...	47	...	7	...	14.9
Small-pox	...	7	..	1	...	14.3
Totals	...	112		10		

In addition to the above, a small-pox “contact” was admitted with symptoms simulating those which generally usher in that disease; and, owing to his condition, it was found necessary to detain him for 20 days.

The following table furnishes particulars as to the wards whence the patients were drawn :—

			DIPHThERIA.	TYPhOID.	SMALL-POX.		
Ward 1	contributed	...	1	...	13	...	1
Ward 2	„	...	10	...	0	...	0
Ward 3	„	...	7	...	1	...	0
Ward 4	„	...	6	...	12	...	0
Ward 5	„	...	0	...	4	...	4
Ward 6	„	...	0	...	2	...	0
Ward 7	„	...	1	...	8	...	0
Ward 8	„	...	10	...	5	...	1
Ward 9	„	...	8	...	1	...	0
Ward 10	„	...	15	...	1	...	1
			---		—		—
			58		47		7

Since the 5th of April,—the date of admission of the first patient into the new hospital,—the sequence of admissions has not been uniformly distributed throughout the year, for it was interrupted on four separate occasions by the occurrence of Small-pox, all the notified cases of which were isolated at the old hospital.

During the last nine months of the year, a patient was admitted into the hospital every other day on the average.

Contrary to the usual experience more than half of the cases of typhoid fever were admitted during the first six months, as is shown by the following table :—

		DIPHTHERIA.		TYPHOID.		SMALL-POX.
January	...	0	...	7	...	0
February	...	0	...	1	...	0
March	...	0	...	0	...	0
April	...	0	...	3	...	1
May	...	0	...	6	...	0
June	...	7	...	8	...	0
July	...	14	...	5	...	0
August	...	8	...	1	...	1
September	...	7	...	3	...	0
October	...	12	...	4	...	1
November	...	2	...	2	...	3
December	...	8	...	7	...	1
		—		—		—
		58		47		7

The average number of days spent in the hospital by recovered cases of Typhoid Fever was 55, of Diphtheria 49, and of Small-pox 41 days.

In the case of those who died the average numbers were 8, 26, and 4 days for the respective diseases.

The inclusive cost of maintenance amounted to £1 10s. 0½d. per week per patient.

On the 13th of March the new hospital was opened, in the presence of a large and distinguished gathering, by COLONEL E. CARNE-CURRE.

A brief discription of the institution, as it now is, may not be out of place.

The decision to build a new hospital was arrived at in 1897, and in February of the following year, MR. W. D. MORGAN, Ton, Pentre, was appointed Architect, and I am indebted to him for the technical details in the description below. The whole of the undertaking was not let as one

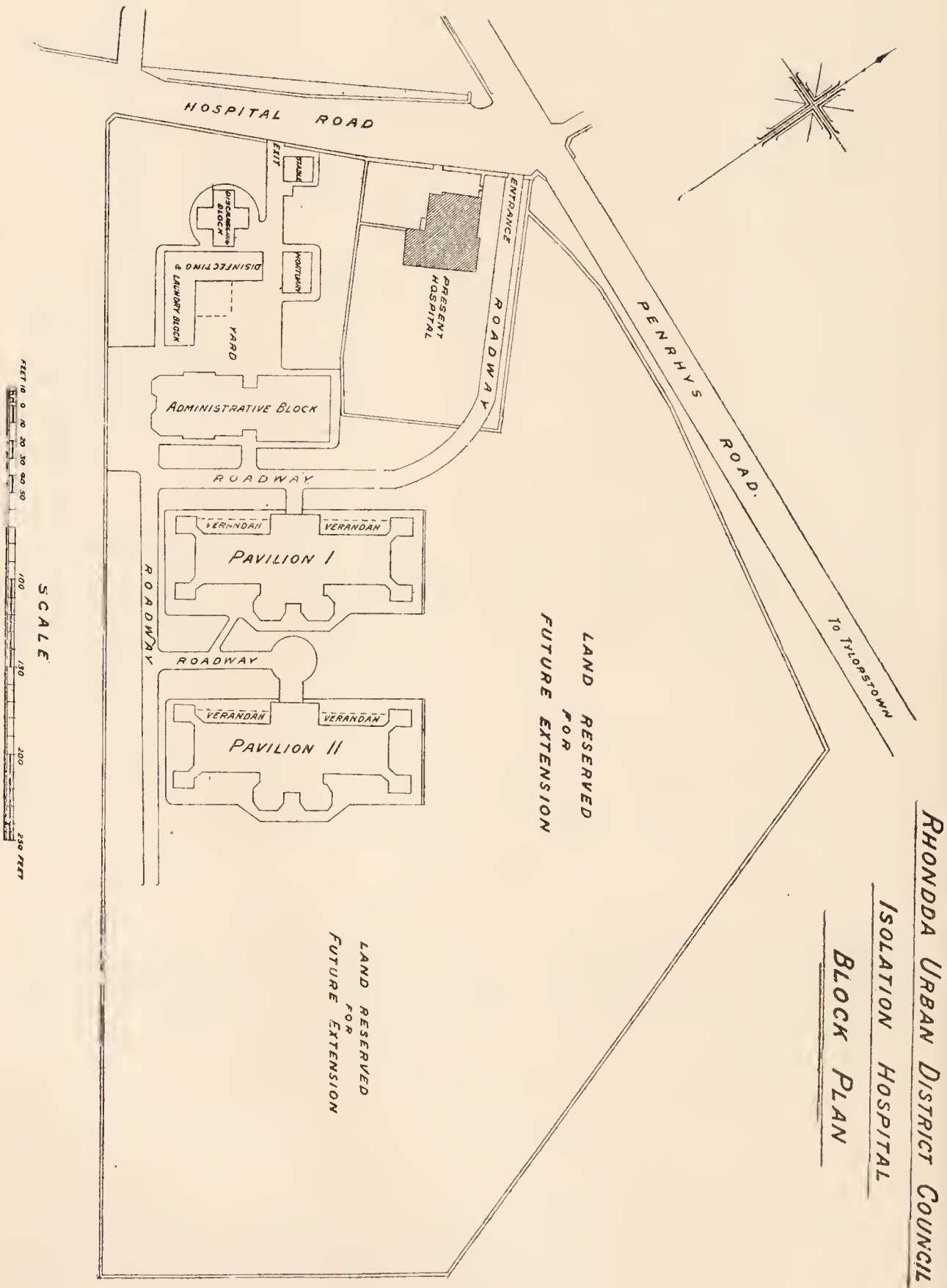
contract because, on account of the strike of 1898, it was thought advisable to proceed with only a portion of the work, viz :—the erection of the Laundry and Disinfecting Block, Discharging Block, Mortuary and Stable. This contract was let in a sum of £1,475 to MR. WATKIN WILLIAMS, Contractor, Pontypridd. In December 1899, the contract for the erection of the Administrative Block and 2 pavilions was let to MESSRS. THOMAS & Co., Contractors, Cardiff, in a sum of £9,199, and the work was begun in January, 1900.

The site on which the hospital is built is five acres in extent and is situated near the junction of and between the road connecting Ystrad and Tylorstown, and the main road leading from Ystrad to Trealaw and Llwynypia, and it would be difficult to find a better position throughout the whole district. The site forms a portion of the somewhat steep north-eastern side of the larger valley (Rhondda Fawr), and presents a south-western aspect, and it is enclosed for about half its extent by a solid stone wall 6ft. 6in. high, and for the remainder by a very imperfect hedge.

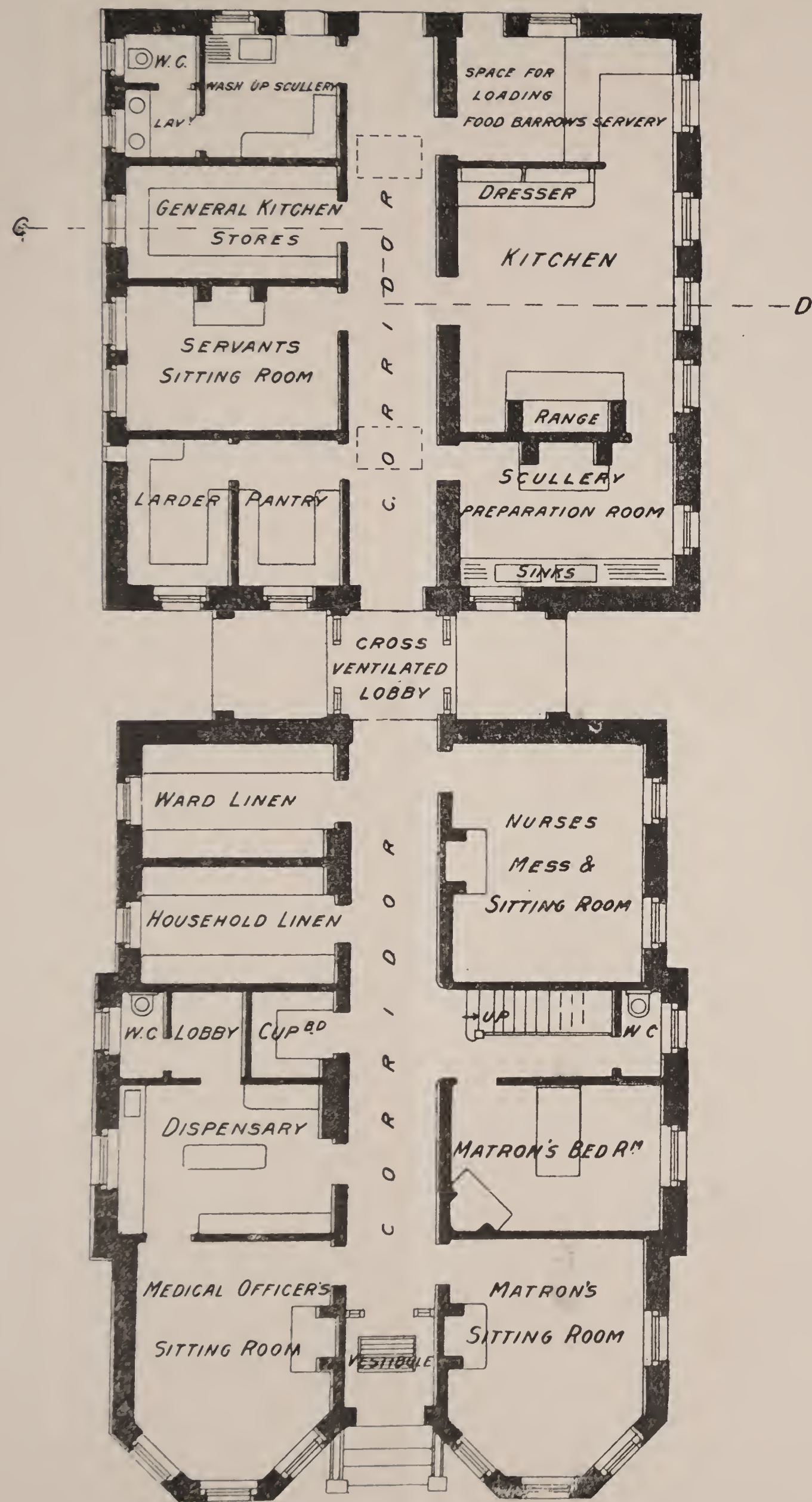
There are only two dwelling-houses in close proximity to the site and there is sufficient space available for the erection of at least two more pavilions

The manner in which the various blocks of buildings forming the institution are arranged, is shown in the accompanying block plan (p. 52). The buildings are designed on the block system, and consist of the following :—

1. Administrative Block.
2. Pavilion I.
3. Pavilion II.
4. Laundry and Disinfecting Block.
5. Discharging Block.
6. Mortuary.
7. Stable.



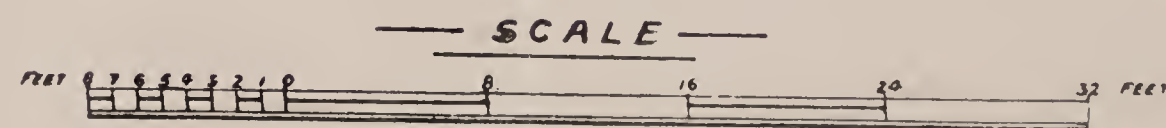
— THE ADMINISTRATIVE BLOCK —



— GROUND FLOOR PLAN —



— FRONT ELEVATION —



W D Morgan A I A S
Architect,
Cardiff & Ton Pentre.

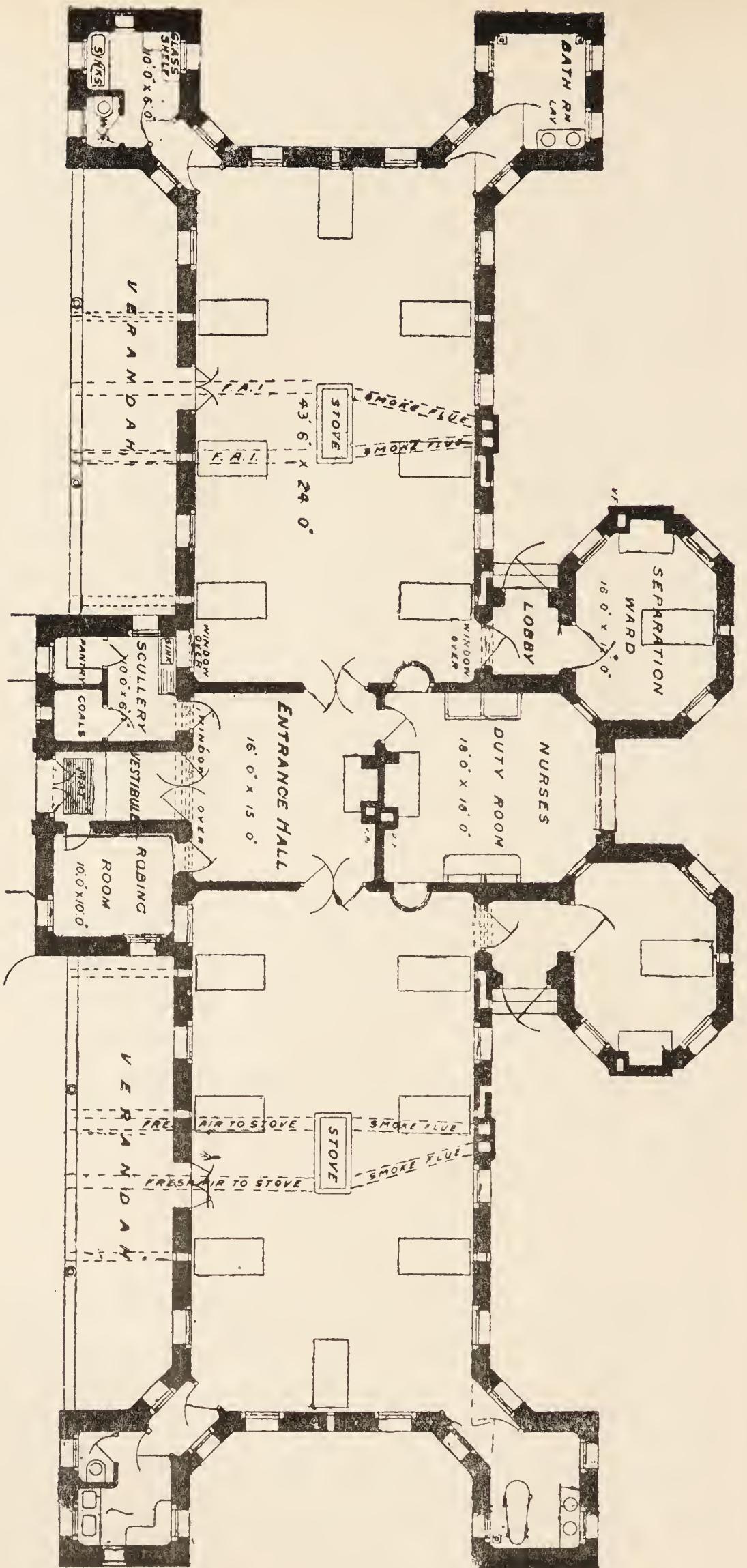
All the blocks are built of local stone obtained from quarries in the neighbourhood. The portions under the plinths are built in "Pawl" work, while the parts above are cemented over. The dressings are in red Cattybrook press brick and Forest of Dean stone. The roofs are covered with Oakeley's slates. The crests and chimney-pots are of Ruabon Terra Cotta.

The Administrative Block consists of 2 portions, separated by a well-lighted cross ventilated lobby. Into this lobby opens the side-door on each side of this block. The front portion is three storeys high and contains on the ground floor,—Doctor's room and dispensary with lavatory and W.C. attached, Matron's room and office with W.C. attached, nurses' room, linen-room, and an airing room in which is placed a hot-water cylinder. On the first floor there are 9 bedrooms, bath-room, lavatory, and W.C. Each bedroom on this floor is fitted with a lavatory basin to which is connected hot and cold water. On the second floor are two bedrooms and 2 box-rooms.

The other portion of this block, one-storey high, contains the kitchen and annexed preparation room, servery, scullery, Matron's store-room, servants' room, and larder. This part of the building is so designed that another storey can be added to it at a comparatively moderate cost ; such an addition would provide further accommodation for eight or nine beds.

THE PAVILIONS.

The two pavilions are placed 40 feet distant from each other, from every other building, and from the boundary wall. Each pavilion is the exact counterpart of the other, with the exception that the floor of Pavilion I. is of oak, while that of Pavilion II. is of Venetian marble mosaic. Each pavilion provides accommodation for 16 beds, seven in each of two



WARD PAVILION—FEVER HOSPITAL.

main wards, and one in each of two private wards. The cubic space allowed for each bed is 2000 cubic feet. The general shape of each pavilion is oblong, and at each angle an annex is placed but separated from the main ward by a short cross-ventilated corridor. One annex contains a bath and lavatory basins, while the other contains a bed-pan flusher, slop-sink, W.C., and some shelves for some necessary utensils. The nurses' duty room or kitchen is centrally situated and leads out of the central hall, and from it a view of the four wards may be obtained by means of as many windows. Out of the hall also open a waiting and robing-room on one side of the entrance, and a scullery, a pantry and a coal recess on the other side.

The private wards are placed, in the form of annexes, at the junction of the kitchen on either side with the main ward, and may be entered either by way of the main ward or more directly from outside by means of an extra door leading into a small lobby. Running the whole length of one side of each main ward is a verandah with glazed roof, the only means of access to which is by means of a doorway leading from the main ward.

The floors of the vestibule, entrance hall, and annexes of both pavilions, as well as of the wards and kitchen of pavilion II. are laid in Venetian marble mosaic, while the floors of the wards and kitchen of Pavilion I are of oiled and polished oak boards, $1\frac{1}{4}$ in. thick, grooved, tongued, and secret-nailed.

The walls are all finished with Keen's cement and Blundall-Spence's paint. All angles and corners are rounded off so as to minimize the deposition and retention of dust. All the joinery in the interior is of varnished pitch-pine, the doors having solid frames free from all beads or mouldings.

Alternating with the beds are long windows, whose sashes have deepened lower rails, and each window is surmounted

by a falling-in transome with glazed sides. On the verandah side of the building these openings are placed above that structure, so as to procure the entrance of the purest air obtainable. The wards are ventilated by means of these glazed hoppers, as well as by means of an Ellison X ventilator under each bed.

The heating of the wards is effected by means of Shorland's stoves and Manchester grates, the latter being used in the entrance hall and private wards.

Hot water is provided by means of an "Ideal" low-pressure steam boiler, placed in the basement of Pavilion I., and with it is connected a calorifier and cylinder placed in the basement of Pavilion II. All pipes and cylinders are made of copper.

LAUNDRY AND DISINFECTING BLOCK.

This block comprises a disinfecting section with a room for infected and another for disinfected clothing. The latter contains, in addition to an "Equifex" disinfector, a 9-horse power vertical boiler for the purpose of providing steam for disinfection and for heating water in the laundry copper; it also serves to provide hot water for the Administrative block. This block also contains a wash-house, a drying-room, an ironing room, a coal-house, W.C., and an ambulance shed. The laundry appliances,—worked by hand,—consist of a washing machine, rinsing and blueing troughs, a wringer, copper, radial drying-horse, box mangle, stove for heating irons, and ironing tables. All the laundry appliances were supplied by Messrs. T. BRADFORD & Co. All the floors in this block are of granolithic concrete paving laid down by Messrs. B. WARD & Co.

MORTUARY.

This block consists of three small chambers arranged in series. That at one end is an inspection chamber separated

by a complete glazed partition from the other chambers, one of which may be used for post-mortem examinations. The walls and ceilings are similar to those in the Pavilions, and the floors are of granolithic concrete paving.

DISCHARGING BLOCK.

This block consists of four small rooms,—an undressing room, a bath-room, a dressing-room, and a waiting room for the friends of the patient to be discharged; the rooms are entered in the order given. The floors of the two first are of Venetian marble mosaic, and those of the other two are of oak. The walls and ceilings are like those of the Pavilions, all the corners being rounded off.

THE STABLE.

This block contains two stalls, a harness room, and a hay loft.

DRAINAGE.

The Sewage from all these buildings is conducted by means of a 9-inch drain to the Council's main sewer. Each block is separately disconnected from the sewer, and the usual disconnecting chambers provided. A manhole is placed at the entrance into the sewer of the drain pertaining to each block, and heavy cast-iron ventilating shafts carried above the roof and fresh-air inlets are provided.

WATER SUPPLY.

The institution is supplied with water from the Council's main by means of a 3-inch pipe, with an independent branch connection controlled by a stop-cock to each block.

LIGHT.

Coal Gas, obtained from the Council's Gas-works, is the source of light for all the buildings and grounds.

FIRE APPLIANCES.

A hose fitted on to a tap and long enough to reach any portion of the block is provided in the entrance hall of each pavilion, and fire hydrants are placed on the mains just outside the boundary wall. No separate appliance is provided for the administrative block.

TOTAL COST.

			£	s.	d.
Discharging block, Laundry and Disinfecting block, Mortuary, and Stable	...	...	1475	0	0
Administrative Block and 2 pavilions	...	...	9199	0	0
Extras allowed on contract	...	...	300	0	0
Disinfector	...	...	285	0	0
Boiler for same	...	...	97	0	0
Heating Apparatus	...	...	445	0	0
Furniture, Fittings, Drugs, &c.	...	...	1310	0	0
			13,111	0	0

Therefore the total cost per bed, exclusive of land, amounted to £410.

The Architect, Mr. W. D. MORGAN, Victoria Chambers, Pentre, assisted by Mr. EVAN PARRY, Clerk of Works, supervised the execution of the works, and to both of them I am indebted for many particulars of a technical character.

Valuable though the hospital has already proved to be, its utility would be much increased were it made possible, by the erection of at least one more pavilion, to isolate three diseases instead of two as at present. Moreover a very

essential part of a well-equipped Fever hospital,—an isolation or observation block,—is now wanting, and the introduction of diseases of a doubtful character is now attended by much risk ; for instance, an outbreak of Scarlet Fever in the Diphtheria pavilion may very easily follow the not impossible and often unavoidable admission of a case of that disease into that pavilion. Such an occurrence would entail much suffering, possibly a loss of life, and certainly much expense and trouble. It is therefore incumbent upon the Council, especially in view of the conditions laid down by the County Council in connection with the repayment by them of half the establishment expenses, to consider at an early date the best means of removing these wants, and so avoid a possible loss of some hundreds of pounds annually owing to a failure on your part to comply with these conditions.

The extent to which the hospital has already proved a boon to the public was in no small measure due to the excellent spirit and devotion to duty shown by the Matron (Miss EDITH M. PROCTER), and her staff. The year has proved an arduous and anxious one on account of the presence of Small-pox at the hospital for several months in the course of the year. The treatment of this disease and the care taken to prevent its spread involved the complete confinement for periods of weeks or even months of those in charge, and a proportionate anxiety to those responsible for the employment of those measures which it was thought advisable to adopt.

SCAVENGING AND REFUSE DISPOSAL.

All the scavenging continues to be done by contract, the whole district being divided into 19 sections. The conditions require that all the refuse must be cleared between 8 a.m. and 1 p.m. daily (except Sundays).

The refuse is conveyed to 12 refuse dépôts situated in various parts of the district, except about 16 tons a day which are carted to the refuse destructor at Ystrad, the total cost for collection and haulage amounting to £6165 a year.

The number of available dépôts diminishes from year to year, with the result that the expense for haulage increases in proportion. The cost of scavenging each house is nearly double that for 1894, the sums being 6s. 0d and 3s. 2d. respectively.

For various reasons, a number of our present tips will soon cease to be available, and the time has now come when the old system should be abandoned in favour of some other and better system, which will be more in consonance with the Council's appreciation of modern requirements in connection with refuse disposal. For the purpose of considering the means that will best meet the somewhat unusual conditions which obtain in the Rhondda, a special Committee has been appointed. It is earnestly to be hoped that the appointed Committee will evolve a system which will do away with the at present unavoidable poisoning of the air and soil resulting from the deposition of something like 200 tons of refuse every day in more or less close proximity to many of the dwelling-houses in the district. We have hardly a dépôt which does not, especially in summer, give rise to some form of complaint either from the inmates of the houses near or from passers-by, and there can be no question that these huge masses of decomposing organic matter serve to vitiate the air we breathe, and to pollute the soil and rivers. When it is remembered that it is very probable that many of the situations at which tipping is now practised will, at no distant date, be required to serve as building sites, the importance of doing all we can to preserve or restore the purity of the soil is apparent. These tips also serve as indirect sources of danger, in that they attract myriads of flies during

the hot season, and the annoyance caused by these is a common cause of complaint on the part of the inmates of dwelling-houses situated near these collections of filth.

Moreover there is accumulating evidence that these flies are a positive source of danger in that they often serve as carriers of harmful organisms, such as those of Typhoid Fever and Epidemic Diarrhoea, from these tips and elsewhere which they may deposit on various kinds of food, especially milk. There is a growing tendency to attribute a great number of the serious and often fatal attacks of summer diarrhoea in children to this source. In connection with this point it seems worthy of notice, that diarrhoea was much less prevalent during 1902 than usual, and it was also the subject of common observation that flies were exceptionally scarce during a great portion of the year, and it may very well be that the connection between these two facts may be that of cause and effect.

The refuse destructor at Ystrad continued to dispose of its share of refuse throughout the greater part of the year. There was a full account given in my last year's report of the capabilities of this installation as a destructor of refuse, as well as of the cost per ton of refuse destroyed.

The experience of 1902 has not added anything of importance to our knowledge. With the hope however of lowering the high cost per ton which its use at present entails, the Destructor Committee recommended towards the end of the year that a BABCOCK & WILLCOX horizontal boiler be substituted for the vertical boiler now in use. It is hoped and believed that by adopting this device the heavy item for coal or other fuel for the boiler will be very much reduced if not altogether done away with, for it is intended to utilize the heat resulting from the combustion of the refuse for generating the steam necessary for the production of a blast. It is also probable

that the amount of labour required will be less, in as much as the boiler will need less attention in the way of stoking than is the case at present with the vertical boiler.

The result of this alteration in the present plant cannot but strongly influence the Refuse Disposal Committee in its recommendation of a scheme whereby this very serious problem of refuse disposal may be solved, for should the alteration effect a substantial reduction in the cost of destruction, it is not improbable that the method of disposal by burning will not compare unfavourably with any other scheme or schemes which may be advocated, especially when it is remembered that the adoption of disposal by means of a series of destructors will serve to remove a nuisance and a source of danger to the public health.

With the object of assisting the Committee in its consideration of the question, Mr. W. J. JONES, your Engineer and Surveyor, has prepared, at the cost of much labour and time, two special reports upon the disposal of refuse. In one are given the methods of disposal practised in 78 of the large towns or districts in the Kingdom.

It is noteworthy that 39, or 50 per cent of the total, burn some or the whole of their refuse by means of some form or other of destructor, while 12 more had the subject of their erection under consideration at the time the report was prepared. Another very noteworthy fact is that 70 out of 78 employ direct labour in the removal of refuse. The second and later report prepared by Mr. JONES gives detailed information concerning the sites, number, distances, &c., of the various tips, cost of scavenging since 1894, number of carts and men employed, as well as many other items of great interest. He also gives estimates of the various schemes of disposal which appear to be within the limits of practicability. Indeed so helpful, instructive, and interesting is the report, that I venture, with his permission, to append a copy for the purpose of reference.

SEWERAGE.

The main sewer, owned jointly by the Pontypridd and Rhondda Urban District Councils, runs a course of $17\frac{1}{2}$ miles to empty into the Bristol Channel at a point about four miles east of Cardiff.

Practically all new houses are being connected to the sewerage system in the course of erection, and very many of those which have hitherto been unconnected, are being brought into conformity with the system of the district.

In the course of 1902, the drains of about 120 old houses were connected, so that the total number of unconnected has been reduced to 850 houses. In the case of Fernhill (66 houses) and Blaenycwm (84 houses), which are at present included in the number of unconnected houses, the contract for the laying of the sewers required before the connection can be effected has already been let. After a consideration extending over a very long time, the Health Committee towards the end of the year decided to recommend the adoption of the pail system for the isolated group of 50 houses known as Bush houses, Clydach Vale. At present the closets are ash middens, which are cleared twice a week by the Council's scavenging contractor.

There still remain a few groups of houses which demand the early attention of the Council. Chief among these are the Appletree houses near the junction of wards 7 and 8, and the closets of Cymmer houses at Cymmer, belonging to the Cymmer Colliery Co. The slop sewage drains of the latter are already connected, but the pail system of closets is in vogue. They are 139 in number and the conversion of the closets into water closets is now receiving the attention of the Company and of the Council. In the case of many of the Appletree group—which are about 50 in number—the sewer, although within a statutory distance, is too high

to allow a connection to be established. The difficulty may probably be surmounted in one of two ways:—in the first place a small bacteria bed installation may be laid for the treatment of the sewage from these houses; in the second place, a subsidiary sewer may be constructed of sufficient length to allow its lower end to be connected to the sewer at a point much below the situation of the houses.

COMMON LODGING-HOUSES.

There is only one registered common lodging-house in the district, which is situated at Ystrad. It was not found necessary to do anything more in the course of the year than pay periodical inspections to it.

REPORTS DURING THE YEAR.

The following are the subjects dealt with in the Reports placed before the Council during the year :—

Back Lanes in the District.
 Pollution of Rivers (2).
 Outbreak of Small-pox at Cymmer.
 Subsidiary Sewers (2).
 Insufficiency of Staff (4).
 The Water Supply of Blaencwm (2).
 Outbreak of Small pox at Treherbert.
 The Water Supply at Hendregwilym.
 Outbreak of Small-pox at Clydach (2).
 Outbreak of Small-pox at Maerdy
 The Drainage of Bush Houses (2).
 Houses unfit for Habitation.
 Influence of personal infection in the spread of
 Diphtheria.
 Vaccination Act.
 The Sewerage of Edmondstown.

UNSOUND FOOD.

The following were destroyed during the year :—

6 Geese.
 20 lbs. of Beef.
 1 Barrel of Herrings.
 1 Box of Mackerel.
 7 Sides of Bacon.
 1 Carcase of Mutton.
 230 lbs. of Pork.

ADOPTIVE ACTS.

The Infectious Disease (Notification) Act, 1889, The Infectious Disease (Prevention) Act, 1890, and The Public Health Acts (Amendment) Act, 1890, part III., were adopted by the Rhondda Council from January 1st, 1894.

POLICE COURT PROCEEDINGS.

The following is a summary of the details of the cases in 1902 :—

Throwing refuse into the river	...	8 cases.
„ „ „ a stream	...	1 case.
„ manure into the river	...	1 case.
„ refuse on a lane		1 case.
Failing to abate nuisance		1 case.

In each case a penalty was imposed.

DISINFECTION.

Disinfection by steam has been carried out for the whole district at the hospital, where a steam disinfector of the "Equifex" pattern has been in almost daily use throughout the year. In the absence through illness of JAMES ALESBURY, the disinfection has been attended to by RICHARD HERN. Weekly reports are sent to me by the individual responsible, with information concerning the number and nature of the articles disinfected as well as a description of the houses from which the clothing or bedding was obtained.

Ever since the Council purchased a horse for disinfection and ambulance work, the animal has been in harness almost daily and not unfrequently on Sundays, and during exceptional prevalence of infectious diseases and at certain periods, the amount of work has been more than one horse can perform. It seems worthy of consideration whether it will not be advantageous and more economical for the Council to buy another horse, especially when the length and arduous nature of the journeys which have to be made are realized.

Rooms are disinfected by means of formaldehyde generated by means of special lamps, and, where additional precautions are thought necessary, sprays of Perchloride of Mercury solutions are employed.

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WATER SUPPLY.

The vast majority of the houses in the district are supplied with water from two water-works, the one, situated at Treherbert, belonging to the District Council, and the other, above Maerdy, belonging to the Pontypridd Water Company.

The water area of the former has an acreage of 15,182 acres and contains 11,200 houses, with an estimated population

of 67,200. Of this total 9,261 houses containing an estimated population of 55,566, are supplied by the Council, while the remainder in this area derive their supplies from various sources, the local Colliery Company being in several instances the body responsible for the provision of the supply ; for instance the Ocean Colliery Co supplies the houses at Cwmparc, the National Colliery Co. at Blaenrhondda, the Glamorgan Colliery Co. at Llwynypia, and the Cambrian Colliery Co. at Clydach Vale.

About 200 houses within the same area obtain their water from streams or wells, but it now seems probable that this number will be very much diminished in the course of 1903, as the Health Committee has under consideration the provision for the village of Blaenycwm a better supply than the existing one.

The rest of the district, including the whole of the Rhondda Fach Valley, The Rhondda Fawr Valley as far north as Penygraig, and the common valley formed by the junction of the other two, is supplied by the Pontypridd Water Co. with the exception of some houses at Tylorstown and of a few groups of houses which are supplied from other private sources.

The water supplied by the Council as well as that supplied by the Pontypridd Water Co., is surface water derived from uncultivated uplands, which, in several situations and especially in the gathering ground of the Pontypridd Co., are characterized by the presence of considerable areas of peat. These areas are sufficiently extensive to considerably affect the colour and taste of the water especially in dry weather.

The storage capacity of the Council's supply is only 7,000,000 gallons, and the water undergoes sand filtration before its distribution. The water is periodically examined at the County Public Health Laboratory, and the results of

the analyses there made are almost uniformly satisfactory. No portion of the district supplied by the Council was on short supply during the year. This was due, not to any provident forethought on the part of the Council as compared with previous years, but to the fortunate circumstance that the rainfall, upon which our supply is so directly dependent, was more evenly distributed than usual although the annual rainfall was rather under the average (see tables at end of Appendix). On several occasions during the summer the amount of water in reserve became very small, although every available source was used and in spite of all possible precaution against waste taken by MR. OCTAVIUS THOMAS, your Water Engineer, and his staff, and on each occasion the situation was saved by the opportune occurrence of a fall of rain.

The question of the provision of a more abundant supply of water has become one of the most urgent and important with which the Council will have to deal in the near future.

Your Water Engineer assures me that there is reason to believe that even the present inadequate supply will continue to diminish from year to year on account of the effect of the extraction of coal from beneath the gathering area, and his opinion is shared by many of the oldest residents who are frequently heard to declare that "such and such a brook has a very much smaller volume of water except during heavy rains than it had some years ago."

Whether the Council decide to sink a deep well, or provide a much larger storage than they at present possess, is a question which urgently calls for early solution. All the circumstances and facts compel one to conclude that the Council will show a want of due appreciation of the gravity of the situation unless very early steps be taken to guard their district against the considerable inconvenience

arising from a scarcity of water if not against a water famine with all its attendant evils. The population within the Council's area increases at the rate of about 1,500 souls per year and this number at the moderate allowance of 20 gallons per head need 30,000 gallons per diem. The amount of storage capacity possessed by the Council is sufficient to provide the district with water for only six or seven days at the present rate of consumption.

The conditions in the small areas in the district mentioned in my report for last year as having suffered from a great scarcity of water throughout the summer have been in some cases ameliorated. At Fernhill the Colliery Co. have provided a storage tank of sufficient capacity to provide a day's supply. It is doubtful, however, whether the source of water,—derived as it is from small streams on the hillside,—will not fail them altogether during a period of drought.

The water supply of Blaenycwm has been very unsatisfactory and is rapidly becoming more so, especially in point of quality. At the time of writing, however, the Health Committee is giving the matter due consideration.

At Gilfach the matter is in *statu quo* and the inhabitants domiciled in this district are as badly off as ever. Frequent communications have passed between the Council and that for the Llantrisant district for the purpose of coming to an arrangement whereby the Rhondda portion may be supplied by the Llantrisant Authority, for the latter are in a better position to do so than the former.

The Pontypridd Water Co. have a storage capacity of 200,000,000 gallons. There has been no material change in the method of filtration practised at these waterworks, that now in vogue being by means of Reeve's patent filters, in which crushed quartz is the filtering material. I have been given to understand by MR. W. JONES, the Manager, that polarite

is being tried instead of quartz, with the hope of removing the discolouration which is at times such an objectionable feature of their water. The area supplied by this Company has not been deprived of a constant supply throughout the year, but, especially in the summer, there were frequent complaints concerning the discolouration of the water supplied to the consumers. The experience gained throughout the year does not in any way justify any alteration in the opinion expressed in the reports of my predecessor Dr. H. JONES and in my report for 1901, that the method of filtration carried out at the water-works of the Pontypridd Water Co. is not an efficient one.

HOUSE ACCOMMODATION.

The demand for houses in the district continues to be in excess of the supply and it is a complaint heard almost daily that a certain kind of house,—of a rental of 15/- to 25/- a month,—is very difficult to obtain, and I have many times been assured by builders that when houses are in course of erection, the number of applicants for tenancies are always far in excess of the number of houses for disposal.

As seen in Table 51, there is not the same scarcity noticeable in all the Urban District in the County. For instance, Barry provides adequate house accommodation, for only 15·4 per cent of its tenements contain fewer than 5 rooms, while the proportion in the Rhondda is 32·2, at Merthyr 51·5 per cent, the average for the Urban districts of Glamorganshire being 34·2 per cent. Table 52 furnishes valuable information as to the extent of the overcrowding existing in the district at the time of the last census.

There were 106 tenements with only one room, four of which gave accommodation to 5 persons each, while 2453

possessed four rooms, and four of this class of tenement lodged 12 or more persons.

The house most frequently found in the district is the five-roomed one, with a kitchen and pantry at the back in the form of a projection. They are usually substantially built of native stone.

Owing to the configuration of the building land procurable it is very common to find that the ground at the rear of the houses takes a steep upward slope, so that as a consequence the houses have very little serviceable ground at the back. In these cases a retaining wall, often many feet high and placed at a distance of 3ft. from the house, is erected to prevent the occurrence of any sliding of the soil behind. There is thus a violation of the spirit if not of the letter of the bye-law which requires that an open space in the rear of a dwelling-house of an extent not less than 15ft. from every part of such building shall be provided and "shall be free from any erection thereon above the level of the ground, except a W.C., earth-closet, or privy, and an ashpit."

Another result of this physical configuration is the difficulty in providing back-lanes and as a consequence it is often found necessary to drain a long series of houses by means of one combined drain instead of connecting each house of the series by means of an independent drain. This arrangement, although obviously to the advantage of the builder, is detrimental to the maintenance of an ideal sanitary condition, for it is often an exceedingly unwieldy process before the abatement of a nuisance arising from a defect in the drain can be effected.

The Council might follow a middle course with advantage, without imposing any great hardship on the builder by insisting on the provision of a distinct connection to the sewer for every four or five houses. In those cases where the sewer runs along the back lane with an adequate fall from each house, an independent drain for each should be insisted upon.

ADMINISTRATION.

After some consideration the Health Committee realized the extent of the inadequacy of the staff of Inspectors, and as a consequence, recommended, especially in view of the growing needs of the district and of the additional amount of work thrown upon the Health Department by the Factory and Workshop Act, 1901, that the Council appoint two Assistant-Inspectors, one additional one and the other to fill the vacancy caused by the appointment of Inspector D. T. WILLIAMS, as Inspector to the Glamorgan County Council.

The Council however thought fit not to adopt the Committee's recommendation in its entirety, and in November proceeded to the appointment of only one inspector. The successful candidate was Mr. D. W. JONES, who, in common with our five other inspectors, possesses the certificate of the Sanitary Institute. He commenced work as Assistant Inspector on the 1st of December.

Each of the inspectors sends to the Medical Officer of Health periodical reports, chief among which are a weekly report giving a summary of the week's work, and a special report in each case of infectious disease occurring in his district. Monthly and special reports are also despatched, the former at the end of each month and the latter as occasions require. A summary of the work done in the form of nuisances abated, cases of infectious diseases investigated, &c., is given in tables 48 and 49 in the appendix.

The evenness of the course of the year's work was much disturbed on several occasions by the introduction of small-pox into the district, but it so happened that no inspector was troubled with more than one introduction into his own district, throughout the year.

Our success in preventing any extension of this disease on each of the four occasions was in no small measure due to the energy, intelligence, and tact displayed by the inspectors in tracing all "contacts," in employing the necessary steps with the promptitude which is so important at the very commencement of a potential epidemic, and in the thorough performance of the cleansing and disinfection which were considered essential as preventive measures.

FACTORY AND WORKSHOP ACT, 1901.

For the first time the Factory and Workshop Act, 1901, has rendered it obligatory for the Medical Officer of Health to report upon the administration of the Act.

Section 132 of the Act reads as follows :—

"The Medical Officer of Health of every district council shall, in his annual report to them, report specifically on the administration of this Act in workshops and work-places, and he shall send a copy of his annual report, or so much of it as deals with this subject, to the Secretary of State."

Until the end of the year the Council had not made any provision for the performance of the extra work thus made to devolve upon the Health Department. In November however an Assistant Inspector was appointed and has been given a district, and it is intended that during the course of 1903, a systematic inspection of the workshops and work-places shall be made and the necessary action taken to ensure that the provisions of the Act be complied with.

The appended table gives the number and the nature of the industries followed at those workshops already on our register. The fuller and more systematic inspection to be followed in the course of 1903 will doubtless serve to add very many more to this list.

Table showing the number and the nature of industries followed at the Registered Workshops and Work-places in the several wards.

Industry	WARDS										Totals
	1	2	3	4	5	6	7	8	9	10	
Boots ...	—	1	4	—	4	—	—	1	—	—	10
Bread ...	—	1	1	—	2	1	1	1	—	3	10
Carpentry ...	1	—	—	—	1	—	—	—	—	—	2
Coaches ...	—	—	1	—	—	—	—	1	—	—	2
Confectionery ...	—	—	2	—	—	—	—	—	—	—	2
Dressmaking ...	10	5	10	4	4	3	3	3	4	12	58
Dressmaking & Millinery	—	—	1	1	—	6	2	4	1	2	17
Iron Work	—	—	—	—	—	—	—	1	—	—	1
Joinery ...	1	—	—	—	—	—	—	3	—	—	4
Millinery ...	5	11	5	2	6	2	4	6	5	5	51
Plumbing ...	—	—	—	—	1	—	—	—	—	—	1
Saddlery ...	1	—	1	—	—	1	—	2	—	—	5
Sweet-making	—	—	—	—	—	1	—	—	—	—	1
Tailoring ..	1	2	4	2	2	2	—	1	1	3	18
Tin Ware ...	—	—	—	—	—	—	—	1	—	—	1
Wheels ...	1	—	—	—	—	—	—	—	—	—	1

BAKE-HOUSES

Inspector's District	...	1	...	2	...	3	..	4	...	5	Whole District
Bakehouses ...	...	30	...	30	...	47	...	30	...	34	171

APPENDIX.

Table 1.

The Area and Population of the County Boroughs, Municipal Boroughs, and Urban Districts in the County of Glamorgan (Census 1901).

Place		Area in Acres		Population
Aberavon	...	2,211	...	7,553
Aberdare	...	15,183	...	43,365
Barry	...	3,777	...	27,030
Bridgend	...	1,700	...	6,062
Briton Ferry	...	1,557	...	6,973
Caerphilly	...	14,426	...	15,835
Cardiff	...	6,373	...	164,333
Cowbridge	...	85	...	1,202
Glyncorwg	...	13,927	...	6,452
Maesteg	...	6,708	...	15,012
Margam	...	18,417	...	9,014
Merthyr Tydfil	...	17,761	...	69,228
Mountain Ash	...	10,504	...	31,093
Neath	...	1,428	...	13,720
Ogmore and Garw		17,925	...	19,907
Oystermouth	...	1,507	...	4,461
Penarth	...	2,210	...	14,228
Pontypridd	...	8,140	...	32,316
Porthcawl	...	3,414	...	1,872
Rhondda	...	23,885	...	113,735
Swansea	...	5,194	...	94,537

Table 2.

Number of houses, occupied and unoccupied, in the different wards, together with the estimated population in each ward.

WARD	HOUSES		Occu- pied Cellars	Estimated Population at 5.9 per house.
	Occupied	Unoccu- pied		
Ward 1 ...	1,659	12	8	9,788
Ward 2 ...	1,984	—	11	11,705
Ward 3 ...	1,816	—	45	10,714
Ward 4 ...	1,645	—	83	9,705
Ward 5 ...	2,058	1	29	12,142
Ward 6 ...	1,784	—	92	10,525
Ward 7 ...	1,639	—	100	9,670
Ward 8 ...	2,510	1	6	14,809
Ward 9 ..	2,333	—	54	13,764
Ward 10 ...	2,445	—	177	14,425
	19,873	14	605	117,247

Table 3.

Showing the increase of population since 1891 in the Urban Districts of Glamorganshire.

URBAN DISTRICT.	POPULATION.		INCREASE PER CENT.
	1891.	1901.	
Barry	13,278	27,030	103·6
Mountain Ash ..	17,826	31,093	74·4
Pontypridd	24,763	32,316	30·5
Rhondda	88,351	113,735	28·7
Cardiff	128,915	164,533	27·5
Merthyr Tydfil ..	59,004	69,228	17·3
Aberdare	38,431	43,365	12·8
Swansea	91,034	94,537	3·8

Table 4

The Chief Occupations of Males and Females, aged 10 years and upwards
in the Rhondda at the time of the last Census.

Ages of Males 10 years and upwards.				Males.	Occupied & unoccupied	Fe- males.	Ages of Females 10 years and upwards.				
10 to 15.	15 to 65.	65 and upwards.	Total Males.	62,315	All ages.	51,420	Total Females				
				14,977	Under 10 yrs	14,994	Unmarried.	Married or Widowed.	10 to 15.	15 to 65.	65 and upwards.
				47,338	10yrs.& upwards	36,426					
OCCUPATIONS AT AGES 10 YEARS AND UPWARDS.											
5820	40,423	1095	47,338	Total Occupied & Unoccupied.			14,118	22,308	5826	29,399	1201
3861	536	284	4,681	Retired or Unoccupied.			9,747	21,418	5505	24,537	1123
1959	39,887	811	42,657	Engaged in Occupations.			4,371	890	321	4,862	78
9	65	...	74	National Government			19	1	...	20	..
...	99	2	101	Local Government			...	...	...	...	...
...	23	...	23	Army and Navy			...	...	...	...	...
...	138	3	141	Clergymen, Priests & Ministers.			..	...	...	...	...
...	7	...	7	Barristers & Solicitors.			...	...	...	...	...
...	47	...	47	Medical Practitioners.			...	...	...	...	...
1	228	...	229	Teaching.			428	59	3	484	...
...	25	3	28	Engineers and Surveyors.			..	...	...	...	...
3	81	4	88	Domestic Offices or Services.			2035	256	196	2068	27
5	576	8	589	Commercial Occupations			14	2	...	15	1
73	1009	18	1100	{ Conveyance of Men, Goods, } { and Messages }			10	1	...	11	...
3	137	24	164	{ Agriculture—Farms, Woods, } { and Gardens }			3	5	...	6	2
1167	30,443	515	32,625	Coal and Shale Miners			5	1	..	5	1
34	1001	24	1059	{ Metals, Machines, Implements } { and Conveyances }			4	1	...	3	2
15	1295	59	1369	Building & Works of Construction			1	2	...	3	...
22	208	3	233	Textile Fabrics (Drapers, &c.)			175	34	14	191	4
22	672	30	724	Dress (Tailors, Milliners, &c.)			1352	238	97	1486	7
36	1248	32	1316	{ Connected with Food (Work- } { ers and Dealers) }			100	142	5	209	18
...	27	...	27	Brewers			...	...	..	...	...
...	99	2	101	Hotel Keepers and Publicans			2	27	...	26	3
...	69	4	73	Gas, Water, and Electricity			...	...	...	...	...
...	24	47	71	Living on own means			17	96	...	59	54

Table 5.

Showing the percentage proportion of Welsh and English-speaking inhabitants aged 3 years and upwards in the County of Glamorganshire and in the Rhondda at the time of the last census.

	Welsh Only.	English Only.	Both Languages.
County of Glamorgan...	6.6	55.8	36.9
RHONDDA ...	11.4	35.4	52.9

Table 6.

Rateable value as stated in Poor Rate.

I am indebted to Mr. Evan Llewellyn for the following statement :—

Year (ending March.)			General District rate in the £.				
			£	s. d.			
1882	...	...	259,384	...	...	1	0
1883	...	..	281,604	..	...	1	0
1884	...	...	294,621	...	...	1	0
1885	...	...	340,003	...	...	1	6
1886	...	...	334,073	...	...	1	6
1887	...	...	339,370	..	...	1	0
1888	...	...	323,885	...	...	1	0
1889	...	...	350,500	..	...	1	6
1890	...	...	359,367	...	...	1	6
1891	...	...	388,879	...	...	1	3
1892	...	...	397,814	...	...	1	6
1893	...	...	403,106	...	...	1	6
1894	...	...	389,524	...	...	2	3
1895	..	...	382,429	...	...	2	9
1896	...	...	409,807	...	...	2	6
1897	...	...	443,290	...	..	2	6
1898	...	...	451,977	...	...	2	6
1899	...	..	462,354	...	...	2	6
1900	...	...	463,387	...	...	2	9
1901	...	...	490,352	...	...	2	9
1902	...	...	535,255	...	...	3	0
1903	...	...	539,336	...	...	3	0

The assessable value for the half year, ending March 31st 1903, is £464,698.

An analysis of the different rateable values shews that 88 per cent. of the houses in the district are rated under £10 per annum, and that 95 per cent. are rated under £20 per annum.

A penny rate produces £1,936.

Table 7.

Showing the actual number of Births in the Rhondda and the Birth-rates during the years 1882-1902.

Year.		Total Births.		Birth-rate per 1,000	Average of Ten years.
1882	...	2,682	...	45.5	42.2
1883	...	2,743	...	44.4	
1884	...	2,924	...	45.2	
1885	...	3,089	...	45.6	
1886	...	3,003	...	42.3	
1887	...	2,910	...	39.1	
1888	...	2,975	...	38.2	
1889	...	3,140	...	38.5	
1890	...	3,425	...	40.1	
1891	...	3,935	...	44.0	
1892	...	3,916	...	42.9	40.7
1893	...	4,149	...	44.3	
1894	...	3,715	...	38.7	
1895	...	4,245	...	43.1	
1896	...	4,328	...	42.9	
1897	...	4,109	...	39.7	
1898	...	4,120	...	38.8	
1899	...	4,089	...	37.5	
1900	..	4,469	...	40.0	
1901	...	4,586	...	40.0	
1902	...	4,937	...	42.2	

Table 8.

Comparative Birth-rate Table for 1902.

			Birth-rate per 1,000
England and Wales	...	...	2.86
Rural England and Wales...	...	...	27.4
76 Great Towns	...	...	30.0
103 Smaller Towns	..	...	27.3
RHONDDA	...	...	42.2

Table 9

Showing the number of Illegitimate Births.

In Ystradfydwdg Sub-district.

In 1895 there was a number equivalent to 26 per 1,000 of total births.

In 1896	„	„	„	24	„	„
In 1897	„	„	„	23	„	„

In 1898 there were 105 equal to 25 per 1000 of total births.

In 1899	„	„	75	„	18	„	„	„
In 1900	„	„	111	„	24	„	„	„
In 1901	„	„	97	„	21	„	„	„
In 1902	„	„	77	„	15	„	„	„

Table 10.

Showing the Population, number of deaths, and death-rate per 1,000 for each Ward.

WARD.	Estimated Population in middle of 1902.			Number of Deaths from all causes.		Death-rate per 1,000.
No. 1	...	9,788	...	175	...	17·8
2	...	11,705	...	237	..	20·2
3	...	10,714	..	171	...	15·9
4	..	9,705	...	202	...	20·8
5	...	12,142	...	232	...	19·1
6	...	10,525	...	195	.	18·5
7	...	9,670	...	187	..	19·3
8	...	14,809	...	280	...	18·9
9	...	13,764	...	258	..	18·7
10	...	14,425	...	306	...	21·2
RHONDDA	..	117,247	...	2,243	..	19·1

Table 11.

Death-rate in the 76 great Towns of England and Wales for 1902, based upon the estimated population at Midsummer as given by the Registrar General.

TOWN.	Death Rate.	TOWN.	Death Rate.
1—Hornsey ...	8·6	39—Nottingham ...	16·7
2—Handsworth ...	10·9	{ 40—Cardiff ...	16·8
3—Walthamstow ...	11·5	{ 41—Portsmouth ...	16·8
4—King's Norton ...	11·6	{ 42—Blackburn ...	16·9
{ 5—East Ham ...	11·9	{ 43—Bolton ...	16·9
{ 6—Leyton ...	11·9	{ 44—Great Yarmouth ...	16·9
7—Bournemouth ...	12·4	{ 45—Plymouth ...	17·0
8—Willesden ...	13·1	{ 46—Stockton on Tees ...	17·0
9—Aston Manor ...	13·5	{ 47—Sheffield ...	17·1
{ 10—Reading ...	13·7	{ 48—West Ham ...	17·1
{ 11—Burton on Trent ...	13·7	49—Hull ...	17·2
{ 12—Wallasey ...	13·9	50—Bristol ...	17·4
{ 13—Croydon ...	13·9	51—Leeds ...	17·6
{ 14—Derby ...	13·9	{ 52—Birkenhead ...	17·7
15—Coventry ...	14·0	{ 53—Gateshead ...	17·7
16—Ipswich ...	14·3	{ 54—London ...	17·7
17—Smethwick ...	14·4	55—Huddersfield ...	17·8
{ 18—Hastings ...	14·5	56—Rochdale ...	18·3
{ 19—Tottenham ...	14·5	57—Birmingham ...	18·6
20—Grimsby ...	14·7	58— RHONDDA ...	18·7
21—Leicester ...	14·9	59—Stockport ...	19·0
22—West Hartlepool ...	15·1	{ 60—Oldham ...	19·1
{ 23—Devonport ...	15·2	{ 61—Preston ...	19·1
{ 24—Southampton ...	15·2	62—West Bromwich ...	19·2
{ 25—Northampton ...	15·2	63—Salford ...	19·3
26—York ...	15·5	{ 64—Burnley ...	19·5
{ 27—Barrow-in-Furness ...	15·6	{ 65—South Shields ...	19·5
{ 28—Rotherham ...	15·6	{ 66—Sunderland ...	19·5
{ 29—Halifax ...	15·7	{ 67—Tynemouth ...	19·5
{ 30—Newport, Mon. ...	15·7	68—Bootle ...	19·7
{ 31—Bradford ...	15·8	69—Newcastle on Tyne ...	19·9
{ 32—Brighton ...	15·8	{ 70—Hanley ...	20·0
33—Walsall ...	15·9	{ 71—Manchester ...	20·0
34—Swansea ...	16·1	{ 72—St. Helens ...	20·0
{ 35—Bury ...	16·4	73—Middlesborough ...	20·2
{ 36—Wolverhampton ...	16·4	74—Wigan ...	20·6
{ 37—Warrington ...	16·4	75—Liverpool ...	22·5
38—Norwich ...	16·7	76—Merthyr Tydfil ...	23·1

Table 12.

Rates of Mortality in the Rhondda of children under one year of age from the principal infantile diseases per 1,000 births during 1898-1902.

Causes of Death.	1898.		1899.		1900.		1901.		1902.	
	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.
All Causes ..	793	192	1016	248	839	186	1020	222	883	178
Diarrhœa ...	177	42	326	80	140	23	267	58	52	10
Debility ...	170	41	181	44	71	15	138	30	153	30
Convulsions ..	139	33	152	37	165	36	188	41	171	34
Lung Diseases (except tubercular)	120	29	152	37	121	27	134	29	192	38
Premature Birth ..	53	12	56	13	66	14	74	16	53	10
Dentition ...	34	8	38	9	28	6	30	6	34	6
Whooping Cough ..	19	4	37	9	29	6	18	3	21	4
Tubercular Diseases ..	17	4	21	5	24	5	9	1	20	4
Measles ...	4	1	—	—	43	9	2	2	38	7

Table 13.

Deaths under one year of age in the different wards during 1902, from the following diseases.

Cause of Death	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Ward 9	Ward 10
Measles ...	3	2	3	5	5	4	7	6	—	3
Scarlet Fever ...	—	—	—	—	—	—	—	1	1	1
Whooping Cough ...	5	5	—	3	—	1	—	1	1	5
Diphtheria and Mem- branous Croup ...)	—	2	1	1	—	—	1	1	1	—
Epidemic Influenza ...	—	—	—	—	—	—	—	1	—	3
Diarrhoea ..	7	6	5	7	4	4	2	3	2	12
Enteritis ...	4	—	5	4	—	1	2	3	6	5
Erysipelas .	—	—	—	2	—	—	—	—	—	—
Accidents (General) ...	—	—	—	2	3	1	3	6	1	—

Table 14.

Infantile Mortality in the Rhondda and the 76 great Towns of England and Wales.

TOWN.	Per 1000 Births.	TOWN.	Per 1000 Births.
1—Hornsey	... 84	39—Rotherham	... 139
2—Coventry	... 105	{ 40—Walsall	... 141
3—Wallasey	... 107	{ 41—London	... 141
4—Handsworth	... 109	{ 42—Stockton-on-Tees	... 141
5—Leyton	... 110	43—Great Yarmouth	... 143
6—Kings Norton	... 111	44—Halifax	... 144
7—Hastings	... 112	45—Grimsby	... 145
8—Burton-on-Trent	... 114	{ 46—Cardiff	... 146
{ 9—Walthamstow	... 115	{ 47—Warrington	... 146
{ 10—Bournemouth	... 115	48—South Shields	... 147
11—York.	... 116	{ 49—Oldham	... 148
12—Ipsw ^l ch	... 118	{ 50—Birkenhead	... 148
13—East Ham	... 119	{ 51—Tynemouth	... 149
14—West Hartlepool	... 120	{ 52—West Ham	... 149
15—Devonport	... 121	53—Sheffield	... 150
16—Reading	... 122	{ 54—Portsmouth	... 152
{ 17—Southampton	... 123	{ 55—Manchester	... 152
{ 18—Tottenham	... 123	{ 56—Sunderland	... 152
{ 19—Brighton	... 125	57—Leicester	... 153
{ 20—Derby	... 125	58—Plymouth	... 155
21—Newport, Mon.	... 126	{ 59—Salford	... 157
22—Smethwick	... 129	{ 60—Birmingham	... 157
{ 23—Rochdale	... 130	{ 61—Wigan	... 157
{ 24—Bury	... 130	{ 62—Nottingham	... 159
25—Bristol	... 131	{ 63—Blackburn	... 159
{ 26—Aston Manor	... 132	{ 64—Leeds	... 159
{ 27—Croydon	... 132	{ 65—Bootle	... 160
{ 28—Wolverhampton	... 134	66—West Bromwich	... 162
{ 29—Bolton	... 134	67—Liverpool	... 163
{ 30—Swansea	... 135	{ 68—Norwich	... 167
{ 31—Willesden	... 135	{ 69—St. Helen's	... 167
{ 32—Barrow-in-Furness	136	70—Hanley	... 174
{ 33—Gateshead	... 136	71—Burnley	... 177
34—Hull	... 137	72— RHONDDA	178
{ 35—Huddersfield	... 138	{ 73—Middlesbrough	... 179
{ 36—Northampton	... 138	{ 74—Stockport	... 179
{ 37—Bradford	... 139	75—Merthyr Tydfil	... 185
{ 38—Newcastle-on-Tyne	139	76—Preston	... 189

Table 15.

Comparative Zymotic death-rate table for the Rhondda and the 76 great towns of England and Wales in 1902.

1—Hornsey	...	·63	39—Stockport	...	1·84
2—Bournemouth	...	·78	40—Norwich	...	1·83
3—Hastings	...	·82	{ 41—Tynemouth	...	1·87
4—Handsworth	...	·85	{ 42—Sunderland	...	1·87
5—Ipswich	...	1·06	{ 43—Leeds	...	1·99
6—Halifax	...	1·07	{ 44—Manchester	...	1·99
7—Burton-on-Trent	...	1·12	{ 45—Aston Manor	...	2·00
8—Kings' Norton	...	1·13	{ 46—Oldham	...	2·00
9—Walthamstow	...	1·20	47—Gateshead	...	2·01
10—Wallasey	...	1·23	48—Grimsby	...	2·03
11—Coventry	...	1·25	49—Bolton	...	2·04
12—Brighton	...	1·26	50—Walsall	...	2·07
13—Rochdale	...	1·27	{ 51—East Ham	...	2·14
14—Derby	...	1·28	{ 52—Willesden	...	2·14
{ 15—Warrington	...	1·31	53—London	...	2·23
{ 16—Devonport	...	1·31	{ 54—Hull	...	2·27
{ 17—Croydon	...	1·31	{ 55—Birkenhead	...	2·27
18—Nottingham	...	1·32	56—Tottenham	...	2·29
{ 19—York	...	1·35	57—Portsmouth	...	2·32
{ 20—Reading	...	1·35	58—Stockton-on-Tees	...	2·38
21—Smethwick	...	1·36	59—Birmingham	...	2·53
22—Swansea	...	1·40	60—Middlesbrough	...	2·66
23—Bradford	...	1·43	{ 61—Salford	...	2·67
24—Bury	...	1·44	{ 62—South Shields	...	2·67
{ 25—Southampton	...	1·54	{ 63—Barrow-in-Furness	...	2·67
{ 26—Leicester	...	1·54	64—Cardiff	...	2·69
27—Newport, Mon.	...	1·56	65—St. Helen's	...	2·72
28—Huddersfield	...	1·57	66—Merthyr Tydvil	...	2·77
29—Northampton	...	1·58	67—Preston	...	2·79
30—West Hartlepool...	...	1·61	68—West Bromwich	...	2·81
31—Sheffield	...	1·67	69—Bristol	...	2·82
32—Great Yarmouth...	...	1·71	{ 70— RHONDDA	...	3·02
33—Wolverhampton	...	1·73	{ 71—Wigan	...	3·02
34—Rotherham	...	1·74	72—Liverpool	...	3·08
35—Newcastle-on-Tyne	...	1·76	73—Bootle	...	3·14
36—Plymouth	...	1·78	74—West Ham	...	3·20
37—Blackburn	...	1·79	75—Burnley	...	3·61
38—Leyton	...	1·82	76—Hanley	...	3·84

Table 16.

Showing the number of Deaths in the Rhondda, from the principal Zymotic diseases since 1882.

YEAR	Small Pox	Measles	Scarlet Fever.	Whooping Cough.	Diphtheria	FEVERS.			Diarrhea	Total Zymotic Deaths.	Zymotic Death Rate	Average Zymotic Death Rate of ten years.
						Typhus	Enteric	Simple Contin'd				
1882	—	16	85	46	25	—	30	—	15	217	3·6	3·1
1883	—	84	21	13	7	—	56	2	38	221	3·5	
1884	—	5	116	29	15	—	55	1	64	285	4·4	
1885	—	59	44	46	19	—	38	1	21	228	3·3	
1886	—	150	93	24	13	—	49	—	38	367	5·1	
1887	1	15	33	5	20	—	28	—	31	133	1·7	
1888	—	20	16	2	27	—	23	—	17	105	1·3	
1889	—	72	18	24	20	—	20	—	52	206	2·5	
1890	—	19	52	65	29	—	20	—	29	214	2·5	
1891	—	49	89	17	17	—	25	—	38	335	3·7	
1892	—	44	43	19	20	—	32	—	46	204	2·2	3·4
1893	1	43	23	12	30	—	91	1	85	236	3·0	
1894	—	13	12	30	29	—	28	—	28	140	1·4	
1895	—	79	27	72	66	—	25	—	75	344	3·4	
1896	—	38	43	63	54	—	28	3	144	373	3·6	
1897	—	138	19	52	78	—	28	—	61	376	3·6	
1898	—	16	14	33	146	—	40	1	105	355	3·3	
1899	—	—	10	70	186	—	55	—	169	489	4·4	
1900	—	121	35	58	125	—	24	—	118	481	4·3	
1901	—	3	43	33	136	—	53	—	327	595	5·1	
1902	1	109	27	40	81	—	21	—	109	389	3·3	

Table 17.—Comparing the death-rates from Zymotic diseases during the years 1882-1902 in the Rhondda with similar diseases in England and Wales (per 1000 living.)

Year	FEVERs										Zymo- tic Deaths		Zymotic Death-rate						
	Small-Pox		Measles		Scarlet Fever		Whooping Cough		Diphtheria		Typhus		Enteric		Simple-contd		Diarrhoea		
	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	England and Wales	Rhondda	
1882	·05	·27	·48	·52	·78	·58	·42	·15	—	·03	·50	·23	—	·04	·25	·65	217	3·6	2·7
1883	·04	1·36	·35	·47	·21	·39	·11	·15	—	·03	·90	·23	·03	·04	·61	·60	221	3·5	2·3
1884	·08	·07	·42	·40	·41	·42	·23	·18	—	·01	·85	·24	·01	·03	·97	·98	285	4·4	2·8
1885	·10	·87	·53	·23	·67	·48	·28	·16	—	·01	·56	·18	·01	·02	·31	·50	228	3·3	2·2
1886	·01	2·11	·44	·21	·33	·47	·18	·14	—	·01	·69	·18	—	·02	·53	·90	367	5·1	2·6
1887	·02	·20	·60	·28	·06	·40	·26	·16	—	·008	·37	·19	—	·02	·41	·73	133	1·7	2·7
1888	·04	·25	·35	·22	·02	·43	·34	·17	—	·006	·29	·17	—	·01	·21	·45	105	1·3	2·1
1889	·001	·88	·52	·23	·29	·43	·24	·18	—	·005	·24	·18	—	·01	·63	·65	206	2·5	2·4
1890	...	·22	·44	·24	·76	·47	·33	·17	—	·005	·23	·18	—	·01	·33	·60	214	2·5	2·5
1891	·002	·54	·44	·17	·19	·47	·19	·17	—	·005	·27	·17	—	·01	·42	·47	235	3·7	2·7
1892	·01	·48	·46	·19	·20	·45	·21	·22	—	·003	·35	·14	·01	·008	·50	·50	204	2·2	2·7
1893	·05	·45	·37	·23	·12	·34	·32	·31	—	·005	·97	·23	·01	·009	·90	·95	286	3·0	3·1
1894	·03	·13	·39	·16	·31	·41	·30	·29	—	·004	·29	·16	—	·007	·29	·35	140	1·4	2·2
1895	·007	·80	·38	·15	·73	·31	·67	·26	—	·002	·25	·18	—	·005	·76	·87	344	3·4	2·8
1896	·02	·37	·57	·18	·62	·43	·53	·29	—	·002	·27	·17	·02	·005	1·42	·55	373	3·6	2·5
1897	...	1·33	·10	·14	·50	·31	·76	·24	—	—	·27	·15	—	—	·58	·85	376	3·6	2·1
1898	·01	·15	·41	·11	·31	·31	1·37	·24	—	—	·37	·18	·009	—	·98	·96	355	3·3	2·2
1899	·01	...	·31	·12	·64	·30	1·70	·29	—	—	·50	·20	—	—	1·55	·98	489	4·4	2·2
1900	·01	1·09	·39	·12	·51	·34	1·12	·29	—	—	·21	·17	—	—	1·05	·69	481	4·3	2·0
1901	·01	·02	·27	·13	·28	·30	1·18	·27	—	—	·46	·17	—	—	2·85	·91	595	5·2	2·0
1902	·008	·90	·38	·23	·34	·29	·69	·23	—	—	·17	·13	·008	—	·90	·38	389	3·3	1·64

Table 18.

Actual number of Deaths from various causes in the separate Wards.

WARD.	Population	All Causes	Zyanoic.	Small Pox.	Measles.	Scarlet Fever.	Whooping Cough	Diphtheria.	Typhoid Fever.	Diarrhoea & Enteritis
1	9,788	175	38	—	8	3	10	2	1	14
2	11,705	237	36	—	6	4	8	11	—	7
3	10,714	171	29	—	7	1	1	6	1	13
4	9,705	202	37	—	6	2	6	7	4	12
5	12,142	232	28	—	15	1	—	3	5	4
6	10,525	195	23	—	11	—	2	1	2	7
7	9,670	187	29	—	16	1	—	5	3	4
8	14,809	280	55	1	16	8	2	16	2	10
9	13,764	258	47	—	8	3	3	18	3	12
10	14,425	306	67	—	16	4	8	12	1	26
RHONDDA	117,247	22,43	389	1	109	27	40	81	22	109

Table 19.

The death-rate per 1,000 from all causes and from the principal Zymotic diseases in the 10 wards in 1902,

WARD.	All Causes.	Zymotic.	Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Typhoid Fever.	Diarrhoea and Epidemic Enteritis.
1	17·8	3·8	—	·8	·3	1·0	·2	·1	1·4
2	20·2	3·0	—	·5	·3	·6	·9	—	·5
3	15·9	2·7	—	·6	·09	·09	·5	·09	1·2
4	20·8	3·8	—	·6	·2	·6	·7	·4	1·2
5	19·1	2·3	—	1·2	·08	—	·2	·4	·3
6	18·5	2·1	—	1·0	—	·1	·09	·1	·6
7	19·3	2·9	—	1·6	·1	—	·5	·3	·4
8	18·9	3·7	·06	1·0	·5	·1	1·0	·1	·6
9	18·7	3·4	—	·5	·2	·2	1·3	·2	·8
10	21·2	4·6	—	1·1	·2	·5	·8	·06	1·8
RHONDDA ...	19·1	3·3	·008	9	·2	·3	·6	·1	·9

Table 20.

Particulars as to the number of Occupants in Scarlet Fever infected houses during 1902.

Wards No.	Number of Houses	Number of Houses Letting Lodgings	Number of Occupants			Persons per House
			Occu- piers	Lodge s	Total	
1	56	25	309	55	364	6·5
2	28	17	161	32	193	6·8
3	63	30	365	65	430	6·8
4	33	17	194	49	243	7·3
5	19	15	99	47	146	7·6
6	19	14	101	47	148	7·7
7	33	18	157	58	215	6·5
8	184	101	1004	240	1244	6·7
9	70	33	344	98	442	6·3
10	125	64	644	165	809	6·4
Rhondda	630	334	3378	856	4234	6·7

Table 21.

Ages of those attacked with Scarlet Fever in the Rhondda during 1902, with case death-rate.

	Under 1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 6 years.	6 to 15 years.	15 to 25 years	25 years and upwards	All Ages.
Cases ...	19	63	62	106	107	96	312	45	23	833
Deaths	3	2	2	5	4	2	5	3	1	27
Per cent of Deaths to Cases	15·7	3·1	3·2	4·7	3·7	2·0	1·6	6·6	4·3	3·2

Table 22.

Number of cases and deaths from Scarlet Fever in the Rhondda, with case mortality in the nine years 1894—1902.

Year.	No. of cases notified.		No of Deaths.		Mortality per cent of cases.	
1894	...	441	...	12	...	2·7
1895	...	704	...	27	...	3·8
1896	..	973	...	43	...	4·4
1897	...	574	...	19	...	3·1
1898	...	408	...	14	...	3·4
1899	...	534	...	10	...	1·8
1900	...	1828	...	35	...	1·9
1901	...	1393	..	43	...	3·0
1902	...	833	...	27	...	3·2

Table 23.

At the end of December there were 83 cases of Scarlet Fever in 63 houses, distributed as follow :—

				Cases.	Houses.
Ward No. 1	...	...	3	...	2
„ „ 2	..	...	4	...	3
„ „ 3	...	...	7	...	6
„ „ 4	...	...	—	...	—
„ „ 5	...	...	—	...	—
„ „ 6	...	...	1	...	1
„ „ 7	...	...	8	...	7
„ „ 8	...	...	19	...	14
„ „ 9	...	...	15	...	10
„ „ 10	...	...	26	...	20
RHONDDA	...	...	83	...	63

Table 24

Showing seasonal incidence of Scarlet Fever in the Rhondda during 1902.

Cases Notified.			Cases Notified.		
MONTH.			MONTH.		
	Total Number.	Primary Cases		Total Number.	Primary Cases.
January	87	70	July	86	73
February	53	33	August	90	61
March	54	44	September	67	56
April	49	36	October	99	65
May	66	53	November	64	50
June	49	39	December	69	50

Table 25.

Scarlet Fever Notifications 1902, and Ages of those attacked.

WARDS.		Under 1 year.	1 to 2 years.	2 to 3 Years.	3 to 4 years	4 to 5 years.	5 to 6 years.	6 to 15 years.	15 to 25 years.	25 years and upwards	Total.
No. 1		2	6	8	11	7	9	22	5	2	72
2	...	—	3	1	5	2	5	12	5	—	33
3	...	—	12	4	15	15	12	27	3	4	92
4	..	2	4	4	5	2	3	23	2	1	46
5	..	—	3	—	1	6	1	7	3	1	22
6	...	—	—	2	2	6	2	8	1	—	21
7	...	1	1	4	4	3	4	13	5	4	39
8	...	3	13	14	31	27	34	104	8	7	241
9		4	8	7	10	13	10	34	5	3	94
10	...	7	13	18	22	26	16	62	8	1	173
Rhondda ...		19	63	62	106	107	96	312	45	23	833

Table 26.

Scarlet Fever cases in the Rhondda during 1902.

WARDS.			Total Fresh Cases.	Newly Infected Houses	AGES OF FIRST ATTACKED.				Attending no School.
					Under 3 years.	3 to 5.	5 to 12.	12 years and upwards.	
Ward No. 1	..		72	56	13	12	22	9	29
„ 2	..		33	28	4	7	12	5	13
„ 3	..		92	63	7	21	30	5	21
„ 4	...		46	33	7	2	20	4	11
„ 5	...		22	19	2	6	8	3	7
„ 6	...		21	19	1	7	10	1	5
„ 7	...		39	33	4	5	15	9	16
„ 8	...		241	184	20	44	95	25	52
„ 9	...		94	70	13	16	32	9	27
„ 10	...		173	125	22	35	56	12	41
RHONDDA			833	630	93	155	300	82	222

Table 27

Scarlet Fever Notifications.

WARDS.		1894	1895	1896	1897	1898	1899	1900	1901	1902
No 1	...	86	152	46	82	35	12	63	147	72
2	...	86	67	40	136	94	56	158	145	33
3	...	79	89	24	82	77	23	158	66	92
4	..	69	122	90	44	64	12	228	210	46
5	...	2	85	200	74	5	26	402	116	22
6	...	8	25	203	29	12	13	242	79	21
7	...	28	61	76	11	6	25	129	120	39
8	...	47	22	202	65	40	47	91	106	241
9	...	23	57	86	26	53	224	91	213	94
10	...	13	24	6	25	22	96	266	191	173
Rhondda ...		441	704	973	574	408	534	1828	1393	833

Table 28

Details of Inspected Houses in which Infectious Disease occurred during 1902.

WARDS.	Num- ber of Hou- ses.	Number of Houses letting Lodg- ings.	NUMBER OF OCCUPANTS			Persons per House
			OCCU- PIERS	Lodg- ers	Total	
Ward No. 1 ...	111	46	598	99	697	6·2
„ „ 2 ...	278	99	1071	229	1300	4·6
„ „ 3 ..	151	69	809	171	980	6·4
„ „ 4 ...	142	77	754	209	963	6·7
„ „ 5 ...	59	42	303	142	445	7·5
„ „ 6 ...	36	24	194	74	268	7·4
„ „ 7 ...	69	34	356	108	464	6·7
„ „ 8 ...	282	150	1525	366	1891	6·7
„ „ 9 ..	171	80	892	217	1109	6·4
„ „ 10 ..	312	146	1704	425	2129	6·8
RHONDDA ..	1,611	767	8,206	2 040	10,246	6·3

Table 29

Showing the number of cases of the notifiable Zymotic Diseases in Rhonddda since compulsory notification was adopted in 1894.

1894 ..	..	...	...	635
1895 ...	...	...	...	933
1896 ...	...	...	...	1,241
1897 ...	...	...	...	1,031
1898 ...	...	...	...	1,652
1899 ...	..	...	..	2,700
1900 ...	...	...	...	3,214
1901 ...	...	...	...	3,039
1902 ...	...	...	...	1,879

Table 30

Particulars as to the number of Occupants in Uiphtheria infected houses during 1902.

WARD.		Number of Houses.	Number of Houses Letting Lodgings	Number of Occupants.			Persons per House.
				Occupiers	Lodgers.	Total.	
No. 1	...	20	6	110	11	121	6·0
2	...	143	71	828	168	996	6·9
3	...	61	27	307	82	389	6·3
4	...	83	47	429	115	544	6·5
5	...	13	8	70	27	97	7·4
6	...	8	2	51	2	53	6·6
7	...	4	6	72	18	90	6·4
8	...	85	44	457	93	550	6·4
9	...	69	31	390	75	465	6·7
10	...	138	47	806	166	972	7·0
Rhondda ...		634	289	3520	757	4277	6·7

Table 31

Diphtheria Notifications 1902. Ages of those attacked.

WARDS	Under 1 Year.	1 to 2 Years	2 to 3 Years	3 to 4 Years	4 to 5 Years	5 to 6 Years	6 to 15 Years	15 to 25 Years.	25 Years and upwards	TOTAL
No. 1	—	1	2	7	1	4	7	—	—	22
„ 2	3	15	17	14	22	16	71	11	5	174
„ 3	1	5	4	8	8	16	25	4	3	74
„ 4	3	5	6	3	12	13	46	5	7	100
„ 5	—	1	3	—	3	—	5	2	—	14
„ 6	—	—	1	—	—	1	6	—	—	8
„ 7	—	1	1	2	3	—	9	1	—	17
„ 8	5	5	5	11	8	10	33	17	4	98
„ 9	2	5	5	10	13	4	33	4	3	79
„ 10	1	15	18	13	19	19	69	9	8	171
RHONDDA ..	15	53	62	68	89	83	304	53	30	757

Table 32

Diphtheria Cases in the Rhondda during 1902.

WARDS	Total Fresh Cases	Newly Infected Houses	Ages of First Attacked				Attend- ing no School
			Under 3 years	3 to 5	5 to 12	12 years and upwards	
Ward No 1 ...	22	20	3	8	8	1	8
„ „ 2 ...	174	143	23	27	73	20	45
„ „ 3 ...	74	61	7	13	35	6	17
„ „ 4 ...	100	83	14	9	42	18	26
„ „ 5 ...	14	13	2	2	7	2	4
„ „ 6 ...	8	8	1	1	4	2	2
„ „ 7 ..	17	14	1	4	8	1	4
„ „ 8 ...	98	85	10	18	38	19	37
„ „ 9 ...	79	69	9	21	28	11	24
„ „ 10 ...	171	138	24	23	67	24	48
Rhondda ..	757	634	94	126	310	104	215

Table 33.

The number of Cases notified and Deaths registered from Diphtheria in the Rhondda during each month in 1898, 1899, 1900, 1901, and 1902.

MONTHS.			1898		1899		1900		1901		1902	
			Cases	De'ths	Cases	De'ths	Cases	De'ths	Cases	De'ths	Cases	De'ths
January	...	..	45	15	177	15	138	22	78	10	80	5
February	...	..	48	8	199	13	79	8	48	9	68	3
March	...	..	34	5	204	18	61	9	90	14	93	6
April	...	..	24	2	89	15	40	5	73	13	97	10
May	...	..	15	2	191	22	73	8	75	8	55	1
June	...	..	10	5	176	19	93	10	170	13	58	8
July	...	.	19	3	232	17	168	15	145	16	67	17
August	...	..	23	6	112	13	89	9	67	10	35	5
September	...	...	126	31	95	17	104	9	114	9	25	2
October	...	...	124	31	108	10	88	11	99	11	47	3
November	...	..	190	22	115	14	98	13	94	11	61	10
December	...	...	225	28	106	13	71	6	75	11	71	11
Total			883	146	1804	186	1102	125	1128	135	757	81

Table 34.

Ages of those attacked with Diphtheria in the Rhondda during 1902, with case death-rate.

	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	5 to 6 Years.	6 to 15 Years.	15 to 25 Years.	25 to 65 Years.	All Ages.
Cases	15	53	62	68	89	83	304	53	30	757
Deaths	7	13	16	15	7	9	14	—	—	81
Per cent of deaths to cases	46·6	24·5	25·8	22·0	7·8	10·8	4·6	—	—	10·7

Table 35.

Diphtheria Notifications in the Rhondda.

WARDS.	1894	1895	1896	1897	1898	1899	1900	1901	1902
Ward No. 1	13	21	3	16	24	12	13	20	22
„ „ 2	5	4	8	68	92	59	96	135	174
„ „ 3	1	4	—	41	6	8	126	63	74
„ „ 4	—	6	12	20	22	4	119	292	100
„ „ 5	4	6	14	8	1	123	93	78	14
„ „ 6	—	—	12	21	139	177	28	71	8
„ „ 7	1	—	—	17	22	110	34	24	17
„ „ 8	3	14	7	16	348	803	195	151	98
„ „ 9	2	4	3	26	129	283	91	63	79
„ „ 10	—	7	20	14	100	225	307	231	171
Totals	29	66	79	247	883	1804	1102	1128	757
Deaths	29	66	54	78	146	186	125	135	81
Percentage of Deaths to Cases.	100	100	68·3	31·5	16·8	10·3	11·3	11·9	10·7

Table 36.
Typhoid Fever Notifications.

WARDS.		1894	1895	1896	1897	1898	1899	1900	1901	1902
Ward No. 1	...	5	21	17	17	13	17	19	70	22
„ 2	...	4	8	10	55	13	17	14	40	1
„ 3	...	11	3	6	1	25	5	13	37	4
„ 4	...	10	42	8	8	87	39	16	39	20
„ 5	...	38	34	21	31	23	19	14	19	10
„ 6	...	10	12	17	15	34	16	6	4	3
„ 7	...	12	4	15	19	17	25	3	12	16
„ 8	...	7	7	23	37	86	50	27	28	9
„ 9	...	40	13	30	19	43	115	42	22	13
„ 10	...	18	9	6	8	20	59	18	37	19
Rhondda		155	153	153	210	361	362	17	308	117

Table 37.

The Seasonal Dis ribution was as follows :—

			CASES NOTIFIED.	
			Total.	Primary Cases.
January	...	...	15	7
February	...	...	13	8
March	...	...	2	2
April	...	...	7	6
May	...	...	7	7
June	...	...	13	9
July	...	...	10	9
August	...	...	8	4
September	...	...	10	10
October	...	...	18	16
November	...	...	6	5
December	...	...	8	8
Whole Year	...	...	117	91

Table 38.

Typhoid Fever in the Rhondda, 1902. Ages of those attacked with case death-rate.

	Under 1 year.	1 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 65 years.	65 years and upwards.	All Ages.
Cases	—	9	45	28	35	—	117
Deaths	—	3	3	8	8	—	22
Percentage of Deaths to Cases... ..	—	33·3	6·6	28·5	22·8	—	18·8

Table 39.

Showing the number of cases of Typhoid Fever, the number of Deaths, and the case mortality since 1894.

Year.	Number of Cases Notified.	Number of Deaths	Mortality per cent. of Cases.
1894 ...	155	28	18·0
1895 ...	153	25	16·0
1896 ...	153	28	18·0
1897 ...	210	28	13·0
1898 ...	361	40	11·0
1899 .	362	55	15·0
1900 ...	172	24	13·9
1901 ...	308	53	16·8
1902 ...	117	22	18·8

Table 40.

Particulars as to the number of Occupants in Typhoid Fever infected houses during 1902.

Wards No.	Number of Houses	Number of Houses Letting Lodgings	Number of Occupants			Persons per House
			Occu- piers	Lodgers	Total	
1	15	5	85	12	97	6·4
2	1	1	6	2	8	8·0
3	4	3	14	8	22	5·5
4	9	4	57	4	61	6·7
5	10	6	53	17	70	7·0
6	3	3	9	13	22	7·3
7	16	5	96	12	108	6·7
8	5	4	24	13	37	7·4
9	13	6	76	14	90	6·9
10	16	9	88	22	110	6·8
Rhondda	92	46	508	117	625	6·7

Table 41.

Deaths from Diarrhoea in July, August, and September, together with the Rainfall and Earth Temperature at a depth of four feet.

Week ending ..	JULY.				AUGUST.				SEPTEMBER.				Total for Three Months.	
	7	14	21	28	4	11	18	25	1	8	15	22		29
Rainfall in inches ...	—	·16	·61	2·04	·56	1·54	1·44	·63	·58	·52	·16	1·30	·65	10·19
Mean temperature 4ft. deep	56	58	57	57	56	57	57	57	59	57	57	55	54	
Ward No. 1	—	—	1	—	1	—	1	—	—	—	—	3	1	7
” 2	—	—	—	—	—	—	—	—	1	1	1	—	—	4
” 3	—	—	—	—	—	—	1	—	—	—	1	1	—	3
” 4	—	—	—	—	—	—	1	—	—	2	1	—	—	5
” 5	—	—	—	—	—	—	—	—	1	—	1	—	—	2
” 6	—	—	—	—	—	—	2	2	—	—	—	—	—	4
” 7	—	—	—	—	—	—	—	—	—	—	—	1	—	1
” 8	—	—	—	—	—	—	—	—	—	—	—	—	—	2
” 9	1	—	—	1	—	—	—	1	—	—	—	1	—	3
” 10	1	—	—	2	—	1	2	—	1	—	5	—	—	13
Rhondda ..	2	—	2	3	1	1	7	4	3	4	9	7	1	44

Table 42

Puerperal Fever Notifications.

WARDS.		1894	1895	1896	1897	1898	1899	1900	1901	1902
No. 1	...	4	2	1	1	—	—	—	4	6
2	...	2	2	3	1	—	3	2	3	4
3	...	—	—	1	—	—	1	—	2	—
4	..	—	4	—	—	—	—	—	—	3
5	...	8	6	7	4	2	5	4	1	7
6	...	1	1	5	4	5	4	3	6	4
7	...	—	—	2	1	6	3	1	6	2
8	...	1	2	2	4	3	4	2	2	—
9	...	1	2	—	—	4	1	1	2	10
10	...	—	1	—	1	1	2	6	2	7
Rhondda ...		17	20	21	16	21	23	19	28	43

Table 43.

Showing the death-rates and the number of deaths from Puerperal Fever in the Rhondda during the years 1882-1902.

Year.	Number of Deaths.		Death-rate per 1,000.	Average of 10 years.
1882	...	14	...	·23
1883	..	9	...	·14
1884	...	27	...	·41
1885	...	21	...	·31
1886	..	8	...	·11
1887	...	14	...	·18
1888	...	13	...	·16
1889	...	6	...	·07
1890	...	11	...	·12
1891	...	24	...	·26
1892	...	15	...	·16
1893	...	20	...	·21
1894	...	17	...	·17
1895	...	12	...	·12
1896	...	21	...	·20
1897	...	10	...	·09
1898	...	4	...	·03
1899	..	16	...	·14
1900	...	9	...	·08
1901	...	21	...	·18
1902	...	23	...	·19

Table 44.

The following Table gives the occupation (if any) and the number of adults who died from Consumption during the year.

Architect	...	...	1
Carpenter	...	...	1
Colliers	...	...	27
Dressmakers	...	...	3
Grocers	...	...	2
Labourers	...	...	2
Minister	...	...	1
Ostler	...	...	1
Piano Teacher	...	...	1
Quarryman	...	...	1
Railway Groundsman	...	...	1
Stone Mason	...	...	1
Tailors	...	...	2
Teacher	...	...	1

Table 45.

Showing the death-rates and the actual number of deaths from Phthisis in the Rhondda during the years 1882-1902.

Year.	Number of Deaths.		Death Rate per 1,000	Average of 10 years.
1882	..	73	...	1.23
1883	...	69	...	1.11
1884	...	72	...	1.11
1885	...	80	...	1.18
1886	...	81	...	1.14
1887	...	82	...	1.10
1888	..	88	...	1.13
1889	...	102	..	1.25
1890	...	84	...	.98
1891	...	95	...	1.06
1892	...	85	...	.93
1893	...	77	...	.82
1894	...	90	...	.93
1895	...	82	...	.83
1896	...	89	..	.88
1897	..	108	...	1.04
1898	...	103	...	.97
1899	...	94	...	.86
1900	...	83	...	.74
1901	...	107	...	.93
1902	...	99	...	.84

Table 46.

Causes of death as recorded at Coroner's Inquests.

	1897	1898	1899	1900	1901	1902
Accidents in Collieries ...	44	42	61	43	63	44
Alcoholism ...	—	1	2	1	1	—
Aneurism ...	—	1	1	1	—	—
Apoplexy ...	—	1	3	3	3	2
Blood Poisoning ...	1	1	—	1	—	—
Burns ...	11	6	12	6	14	13
Convulsions ...	14	13	10	8	10	10
Crushed by Wheel ...	—	—	—	1	—	—
Diarrhœa ...	—	1	—	—	—	—
Drowning ...	4	3	2	5	6	2
Embolism ...	—	1	1	—	—	—
Exposure ...	—	1	1	—	—	1
Falls ...	10	3	3	7	3	9
Falls from Bridge ...	—	—	3	—	—	—
Found Dead ...	1	—	—	1	3	1
Fracture of Spine ...	1	1	—	—	—	—
Heart Disease... ..	7	15	11	6	7	11
Hæmorrhage ...	1	—	—	—	—	—
Hernia ..	1	1	—	—	—	—
Homicide ...	—	1	—	—	—	—
Injudicious Feeding ...	1	—	—	1	—	—
Injury (character not stated) ...	—	—	1	—	3	—
Injury to Head ...	1	—	—	1	5	1
Kick of Horse... ..	1	1	—	—	—	—
Malnutrition ...	—	—	1	—	—	—
Manslaughter ...	2	—	1	—	1	1
Misadventure ...	—	1	2	—	—	—
Murder ...	—	—	—	—	—	1
Natural Causes ...	—	2	3	3	1	5
Not Known ...	1	—	—	—	—	—
Old Age ...	—	—	—	1	—	—
Overlain ...	2	1	—	4	2	—
Perforation of Stomach ...	—	—	1	—	—	—
Poisoning (Ptomaine) ...	1	—	—	—	—	—
Run over by Cart ...	1	3	1	3	1	1
Run over by Train ...	6	2	3	2	2	1
Run over by Tram ...	—	—	1	—	3	—
Scalds ...	8	3	6	8	11	6
Scarlet Fever ...	—	—	—	1	—	—
Starvation ...	—	—	—	—	—	1
Strain ...	1	—	—	—	—	—
Suffocation ...	1	3	1	—	3	2
Suicide ...	4	1	3	2	1	2
Syncope ...	1	1	1	7	2	1
Tumour ...	1	1	—	—	—	—
Want of proper attention at birth ...	1	1	—	—	—	—
	128	112	135	117	148	115

Table 47

New Houses. Plans passed.

Year.		Houses.		Shops.		Hotels.	Churches and Chapels.
1899	...	372	...	20	...	3	1
1890	...	829	...	17	...	2	6
1891	...	1187	...	27	...	2	6
1892	...	883	...	25	...	1	3
1893	...	768	...	26	...	2	2
1894	...	1317	...	39	...	--	6
1895	...	544	...	18	...	—	5
1896	...	459	...	26	...	1	3
1897	...	425	...	10	...	2	6
1898	...	156	...	22	...	2	3
1899	...	159	...	29	...	6	3
1900	...	345	...	16	...	2	2
1901	...	451	...	12	...	—	6
1902	...	849	...	14	...	—	9

During 1902, there were passed for occupation 334 buildings.

Table 48.

RHONDDA URBAN DISTRICT.

Record of Nuisances abated.

DISTRICT.	1	2	3	4	5	Rhon- dda.
Accumulation of Refuse ...	73	29	35	8	38	183
Accumulation of Manure ...	50	15	56	13	25	159
Blocked Drain ...	113	74	74	128	97	486
Blocked W.C. ...	70	83	70	70	97	390
Defective Drain ...	61	22	40	83	76	282
Lip Trap to Gully Trap ...	49	63	87	71	72	342
Unventilated Drain...	25	19	2	32	10	88
Defective Ventilating Pipe ...	10	8	2	2	2	24
Waste Pipe Direct ...	1	—	—	—	1	2
No Water in W.C. ...	23	3	1	17	59	103
Dilapidated or Filthy W.C. ...	100	180	89	72	106	547
No W.C. ...	27	—	25	27	—	79
Dilapidated back area ...	87	72	99	58	67	383
Defective or no Rain Water Shoots.	124	129	105	40	49	447
Dirty Houses ...	29	17	11	1	29	87
Overcrowding ...	22	12	9	7	35	85
Animals as a Nuisance ...	34	78	5	25	4	146
Privy to W.C. ...	3	—	1	24	—	28
Other Nuisances ...	16	18	17	27	30	108

Table 49.

Summary of District Inspector's work during 1902, as reported to the M.O.H. each week.

DISTRICT.	1	2	3	4	5	Rhondda
Cases of Infectious Disease Investigated ..	347	352	168	428	523	1818
Re-visits to						
Infected houses ...	2255	2274	1025	2883	3073	11610
Drain Connections ..	134	438	338	233	141	1284
Slaughter-houses ..	177	311	311	162	190	1151
Lodging-houses ..	—	62	2	—	—	64
Bake-houses ...	286	152	260	389	246	1333
Dairies ..	98	146	81	2	87	414
House to House ...	2907	3240	3082	2535	2542	14306
New Buildings Visited ...	876	781	553	379	731	3320
Special Complaints ..	18	95	72	8	35	228
Letters sent by Inspectors	398	667	405	257	511	2238
Ditto referred to M.O.H. ..	26	27	66	46	77	242
Ditto to Council ..	12	8	34	15	78	147
New Buildings Certified ...	82	47	125	55	38	347
No. of Connections made..	25	29	41	26	6	127
No. of Houses Connected	47	64	131	73	15	330
Total No. of do. ..	3337	3446	5145	3040	4022	18990
Do. Unconnected ..	263	80	186	297	67	893
Fines—						
Without Brushes ...	—	7/6	—	2/6	£1/12/6	£2/2/6
Without Bell ...	17/6	10/-	—	2/6	£1/10	£3/-/-
Neglecting Lanes ...	£2/2/6	17/6	£19/5/0	—	£3/10	£25/15/-
Without Cover ...	7/6	10/-	£1/2/6	17/6	£12	£14/17/6
Scavenging after 1.0 p.m. ...	15/-	—	—	—	£2/15	£3/10/-
Depositing on Unauthorised Ground...	£4/2/6	15/-	15/-	£1/5/0	£1/7/6	£8/5/-
Failing to send out Cart ...	—	10/-	10/-	—	—	£1/-/-

Table 50

Premises requiring periodical inspections.

DISTRICT	...	1		2		3		4		5	Whole District.
Bakehouses	...	30	...	30	...	47	...	30	...	34	171
Cowsheds	...	40	...	40	...	39	...	29	...	12	160
Dairies & Milkshops	42	...	42	...	38	...	36	...	32	...	190
Lodging Houses	...	—	...	1	...	—	...	—	...	—	1
Slaughterhouses	...	10	...	4	...	21	...	4	...	5	44
Offensive Trades	...	—	...	1	...	—	...	—	...	—	1

Table 51.

Showing the proportion of Tenements with less than five rooms in certain Urban Districts in Glamorganshire.

District	Total No. of Tenements.	No. of Tene- ments of less than five rooms.	Proportion per cent of Tenements with less than five rooms.
Aggregate of Urban Districts in Glamorgan	... 138,380 ...	47,349	... 34·2
Barry with the lowest pro- portion	... 5,286 ...	815	.. 15·4
Rhondda	... 21,619 ...	6,978	. 32·2
Merthyr Tydfil (with the high- est proportion)	... 13,317 ...	6,858	... 51·5

Table 52.

Dissection of the Tenements with less than five rooms in Rhondda.

No. of Tenements with less than five rooms.	No. of rooms per Tenement.	No. of Tene- ments in each division.	PERSONS PER TENEMENT.											
			1	2	3	4	5	6	7	8	9	10	11	12 or more
6,978	1	106	63	22	9	8	4	—	—	—	—	—	—	—
	2	2,082	133	693	623	357	160	66	37	11	1	—	1	—
	3	2,337	26	312	475	510	426	285	177	75	39	9	3	—
	4	2,453	14	184	341	441	481	375	254	186	96	54	23	4

Table I.

Vital Statistics of Whole District during 1902 and previous years.

Rhondda Urban District.

Year.	Population estimated to middle of each year.	BIRTHS.		Total Deaths registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of non-residents registered in Public Institutions in the district.	Deaths of residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.	
		Number.	Rate.*	Under 1 year of age.		At all Ages.					Number	Rate.*
				Number	Rate per 1000 births registered	Number	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1892	91,187	3,916	42·9	757	193	1,805	19·7	No	reco	ds.	No re	cords.
1893	93,514	4,149	44·3	932	224	2,132	22·8	"	"	"	"	"
1894	959,04	3,715	38·7	757	204	1,706	17·7	"	"	"	"	"
1895	98,356	4,245	43·1	997	234	2,246	22·8	"	"	"	"	"
1896	100,870	4,328	42·9	855	197	2,105	20·8	"	"	"	"	"
1897	103,445	4,109	39·7	838	204	2,049	19·8	41	—	32	2,081	20·1
1898	106,094	4,120	38·3	793	192	1,979	18·6	27	3	20	1,999	18·8
1899	108,807	4,089	37·5	1016	248	2,419	22·2	35	—	25	2,444	22·4
1900	111,587	4,469	40·0	839	186	2,181	19·5	57	3	49	2,227	19·9
1901	114,439	4,586	40·0	1020	222	2,431	21·2	24	2	40	2,469	21·6
Averages for years 1892-1901	102,420	4,173	40·7	880	210	2,105	20·5	†37	†1·6	†33	†2,244	†20·6
1902	117,007	4,937	42·2	883	178	2,190	18·7	23	3	56	2,243	19·2

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

† Averages for five years 1897-1901.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums.

Area of District in acres (exclusive of area covered by water) 23,885.

Total population at all ages 113,735	} At Census of 1901.
Number of inhabited houses 19,210	
Average number of persons per house 5·9	

Table II.

Vital Statistics of separate Localities in 1902.

WARD.			Population esti- mated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year
			<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d</i>
Ward No. 1	...	...	9768	—	175	62
„ „ 2	...	...	11677	—	237	94
„ „ 3	...	...	10690	—	171	68
„ „ 4	...	...	9685	—	202	84
„ „ 5	...	..	12112	—	232	88
„ „ 6	...	...	10501	—	195	88
„ „ 7	...	...	9650	—	187	84
„ „ 8	...	...	14783	—	280	97
„ „ 9	...	...	13740	—	258	94
„ „ 10	...	...	14401	—	306	124

NOTES. - (a) Deaths of Residents occurring in public institutions beyond the district are included in sub-columns *c* of this Table, and those of non-residents registered in public institutions in the district excluded.

(b) Deaths of Residents occurring in public institutions, whether within or without the district, are allotted to the respective localities according to the addresses of the deceased.

(c) The last Census has made it possible, for the first time since the re-division of the district, to adopt the Wards as the "localities." Hitherto the births have not been allotted to their respective Wards, but arrangements have now been made to make such a distribution possible in the future.

Table III Rhondda Urban District.
Cases of Infectious Disease notified during the year 1902.

NOTIFIABLE DISEASE	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.										No. of CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.										
	At all ages	At Ages—Years.					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	
		Under 1	1 to 5.	5 to 15	15 to 25	25 to 65																					65 and upwards
Small-pox	7	—	—	1	2	4	—	1	—	—	—	4	—	—	1	—	1	1	—	—	4	—	—	1	—	1	
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Diphtheria	757	15	272	387	53	30	—	22	174	74	100	14	8	17	98	79	171	1	10	7	6	—	—	1	10	8	15
Membranous croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Erysipelas	122	3	4	13	17	77	8	14	11	26	14	6	2	4	7	9	29	—	—	—	—	—	—	—	—	—	
Scarlet fever	833	19	338	408	45	23	—	72	33	92	46	22	21	39	241	94	173	—	—	—	—	—	—	—	—	—	
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Enteric fever	111	—	9	43	26	33	—	22	1	4	20	10	3	12	9	12	18	13	—	1	12	4	2	8	5	1	1
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Continued fever	6	—	—	2	2	2	—	—	—	—	—	—	—	4	—	1	1	—	—	—	—	—	—	—	—	—	
Puerperal fever	43	—	—	—	15	28	—	6	4	—	3	7	4	2	—	10	7	—	—	—	—	—	—	—	—	—	
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Totals	1879	37	623	854	160	197	8	137	223	196	183	63	38	78	356	205	400	15	10	8	18	8	2	9	16	9	17

NOTE.—The Localities adopted for this Table are the same as those in Tables II and IV.
Isolation Hospital—Rhondda (Ward in 4)

Table IV.—Causes of, and Ages at, Death, during the Year 1902.

CAUSES OF DEATH.	Deaths in or belonging to the whole District at subjoined Ages.							DEATHS IN OR BELONGING TO WARDS (At all Ages).										Total Deaths in Public Institutions in the District.	
	All Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Ward 1.	Ward 2.	Ward 3.	Ward 4.	Ward 5.	Ward 6.	Ward 7.	Ward 8.	Ward 9.	Ward 10.		
Small Pox...	1	—	—	—	—	1	—	—	3	6	7	6	15	11	16	16	—	—	1
Measles ...	109	38	71	—	—	—	—	—	4	4	1	2	1	2	1	8	3	—	—
Scarlet Fever	27	3	13	7	3	—	—	10	8	1	6	6	1	—	1	3	3	—	—
Whooping Cough	40	21	19	23	—	—	—	2	11	6	7	4	3	5	2	2	18	8	—
Diphtheria and Membranous Group	81	7	51	3	8	8	—	1	2	1	4	1	5	1	2	4	3	1	—
Enteric and other continued Fever	22	—	4	—	1	12	2	10	7	3	—	—	2	3	2	2	3	1	—
Influenza ...	23	52	15	3	—	2	—	2	1	7	6	—	4	1	4	7	6	8	—
Epidemic Diarrhoea	72	—	—	—	4	3	—	4	—	—	1	—	2	—	1	1	2	1	—
Rheumatic Fever	10	—	—	—	10	13	—	2	1	—	2	—	4	2	3	4	2	2	—
Puerperal Fever	23	—	—	—	—	2	—	—	—	—	2	—	1	4	—	—	—	—	—
Erysipelas	4	2	—	—	—	3	—	—	—	—	2	—	—	—	—	—	—	—	—
Veneral Diseases	7	2	1	—	—	3	—	—	—	—	1	—	—	—	—	—	—	—	—
Other Septic Diseases	8	2	—	1	—	5	—	1	7	—	8	—	—	1	3	2	—	—	—
Phthisis ...	99	—	4	8	20	65	2	10	—	12	2	—	9	8	14	1	16	10	—
General Tuberculosis ..	8	4	1	—	—	3	—	—	—	1	2	—	1	—	1	2	—	3	—
Tabes Mesenterica ...	7	5	2	—	—	—	—	—	2	—	1	—	4	1	2	2	—	—	—
Other Forms of Tuberculosis	25	11	3	7	1	4	—	1	—	3	—	—	2	4	2	1	4	16	—
Alcoholism	4	—	—	—	—	4	—	1	1	—	2	—	1	—	1	1	1	3	—
Cirrhosis of Liver	5	—	—	—	—	4	—	3	8	—	4	—	6	—	3	1	5	—	—
Cancer, Malignant Disease	48	—	—	—	1	36	11	—	—	4	1	—	—	3	2	—	—	—	—
Pernicious Anæmia	6	2	—	—	1	5	—	—	1	1	—	—	—	—	—	—	—	—	—
Rickets ...	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diabetes ...	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Meningitis	40	14	11	7	5	1	2	4	5	4	—	—	1	—	5	—	1	13	—
General Paralysis of Insane	8	—	—	—	—	8	—	1	1	3	—	—	—	—	—	—	—	1	—

RAINFALL Returns at Tynywaun Waterworks, Treherbert.

Height above sea level, 801 feet.

Furnished by Mr. OCTAVIUS THOMAS, Water Engineer to the Council.

Month.	YEAR 1893.				YEAR 1894.				YEAR 1895.			
	Total depth.	Greatest fall in 24 hours.		Days '01 or more fell.	Total depth.	Greatest fall in 24 hours.		Days '01 or more fell.	Total depth.	Greatest fall in 24 hours.		Days '01 or more fell.
		Depth	Date			Depth	Date			Depth	Date	
January	5.69	1.48	30	19	12.40	1.27	8	24	7.83	1.55	20	21
Feb. ...	14.41	1.72	13	24	12.60	1.57	25	21	.16	.06	24	3
March ...	1.13	.54	3	6	8.96	2.27	12	14	9.33	2.41	23	19
April ...	.21	.16	29	2	4.51	.82	25	18	6.15	2.51	22	14
May ...	4.72	1.19	19	13	6.91	1.73	8	20	.49	.25	31	4
June ...	2.96	1.30	26	10	5.41	.84	3	18	1.51	.72	30	8
July ...	6.20	1.22	18	15	6.41	1.17	24	24	9.97	1.20	1	18
August...	6.08	1.00	2	16	6.96	1.30	25	20	10.46	2.14	26	20
Sept. ...	6.01	1.70	28	15	2.31	.91	7	8	2.69	1.51	10	9
October..	10.01	1.09	10	20	12.51	2.61	26	13	5.58	1.17	5	16
Nov. ...	5.92	1.66	25	17	12.88	2.71	13	20	12.96	2.23	10	23
Dec. ...	13.05	1.82	12	20	8.75	1.80	17	22	8.41	1.07	12	25
Total...	76.39	1.82	Dec. 12	177	100.61	2.71	Nov 13	222	75.54	2.51	April 22	180
YEAR 1896.				YEAR 1897				YEAR 1898.				
January	3.96	1.33	24	15	4.35	.72	6	17	6.06	1.07	5	15
Feb.	2.45	1.17	8	13	9.21	1.30	19	22	6.13	.94	25	23
March	10.85	1.19	19	27	11.60	1.96	2	28	2.66	.64	19	17
April ...	2.28	.49	10	17	9.30	2.36	17	22	5.26	.90	11	13
May ...	.10	.11	21	2	3.70	.84	29	16	5.32	.51	5	22
June ...	3.62	.65	17	16	4.93	1.30	8	12	5.25	1.00	23	17
July ...	4.82	1.01	25	12	2.92	.80	25	14	1.83	.89	1	6
August	5.06	1.03	24	15	11.79	1.49	29	25	9.30	1.65	18	21
Sept.	12.57	2.39	24	25	9.98	1.89	1	17	3.13	1.49	29	13
October	9.37	1.92	6	19	4.51	1.51	15	11	12.42	1.64	17	22
Nov. ...	2.97	1.39	14	11	9.11	3.25	12	14	11.19	3.85	2	20
Dec. ...	18.40	1.79	27	26	18.42	4.09	29	23	16.23	3.04	26	26
Totals ...	76.45	2.39	Sep 24	198	99.82	4.09	Dec 29	221	84.78	3.85	Nov 2	215
YEAR 1899				YEAR 1900				YEAR 1901				
January	15.11	3.26	20	22	11.60	2.36	6	24	6.91	1.46	26	22
February	8.53	1.18	12	14	12.17	3.48	15	21	3.44	1.20	26	13
March ..	3.68	2.04	25	10	1.44	.50	18	8	6.25	1.51	29	15
April ...	9.04	1.15	6	22	4.37	.63	3	17	9.68	1.37	2	16
May ...	6.40	2.67	19	18	4.78	1.67	21	17	2.42	1.43	30	9
June ...	1.83	.82	30	9	6.47	1.30	24	18	3.94	1.85	20	11
July ...	1.31	.38	1	12	2.95	.90	31	12	2.25	1.15	25	10
August .	2.90	1.18	29	9	7.50	1.58	6	16	7.57	2.31	13	17
Sept. ...	4.37	.79	30	21	5.02	1.59	26	14	5.80	1.09	7	23
October	7.32	1.61	3	14	12.40	2.51	4	22	5.09	.87	17	22
Novem.	7.60	2.14	7	12	9.90	1.87	15	24	4.33	1.32	11	10
Dec. ...	5.96	1.33	28	23	16.30	1.61	30	24	14.00	2.73	7	24
Totals ..	74.05	3.26	Jan. 20	186	94.90	3.48	Feb. 15	217	71.78	2.73	Dec. 7	192

RAINFALL RETURN AT TINYWAUN WATERWORKS, TREHERBERT.

—0—
5 Inch Gauge. 801 feet above Sea Level.
YEAR 1902.

MONTH.			Total Depth.	Greatest Fall in 24 Hours.		Days .01 or more fell.
				<i>Depth.</i>	<i>Date.</i>	
January	...	...	5.80	1.31	1	19
February	...	...	3.86	.90	22	11
March	...	...	5.19	.94	14	19
April	...	...	4.21	1.35	21	14
May	...	...	3.99	.75	16	23
June	...	...	4.91	.70	30	19
July	...	...	3.67	1.24	26	14
August	...	...	4.52	.91	18	24
September	...	...	2.72	.82	2	15
October	...	...	7.97	1.89	13	22
November	...	...	7.90	1.41	24	18
December	...	...	9.95	2.46	16	17
TOTAL			64.70	2.46	Dec. 16.	215

METEOROLOGICAL RETURNS.

Furnished by Mr. OCTAVIUS THOMAS, Water Engineer to the Council.

MAERDY (height above Sea Level 1,255 feet.

MONTH.	1897.				1898.				1899.				1900.				1901.				1902.			
	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in Month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 years.	Date of Greatest fall.
January	3.13	12			2.38	16	.67	5	8.19	22	1.82	20	7.93	24	1.62	6	4.60	12	1.17	26	2.97	11	.48	4
February	6.25	19			3.52	22	.43	3	6.00	14	.89	12	7.90	17	1.71	15	2.49	9	.77	26	3.06	7	1.05	23
March	6.54	25			1.97	19	.38	19	1.81	13	.78	25	1.23	7	.18	21	3.49	9	.85	29	3.55	14	.66	14
April	5.45	23			3.32	12	.61	11	6.10	23	.84	6	2.20	15	.46	3	6.94	15	1.15	2	3.29	8	1.00	21
May	2.18	23			4.32	23	.45	3	5.82	16	1.87	19	3.59	14	1.00	21	1.92	9	.88	30	3.33	11	.58	17
June	3.94	16			3.73	17	.68	23	1.92	7	.70	30	4.75	17	.79	19	3.09	9	1.24	20	4.57	19	.65	30
July	2.15	16			1.41	6	.60	1	.85	9	.31	11	2.55	11	.85	31	1.86	6	.84	25	2.87	9	.96	25
August	8.24	23			5.86	20	1.62	18	3.15	11	1.08	29	6.48	15	1.14	21	5.92	16	2.00	13	3.47	22	.60	18
Sept.	7.09	18			2.00	12	.93	29	3.11	18	.38	30	3.10	10	.71	30	4.74	20	.92	16	2.76	11	.64	23
October	3.95	12			9.47	24	1.24	17	5.07	11	1.17	1	10.12	18	2.21	4	3.97	20	1.07	17	5.86	18	1.02	12
November	5.96	15			7.27	16	2.13	2	5.09	12	1.48	7	7.88	21	1.53	15	3.19	7	1.08	11	6.68	15	.90	27
December	10.38	20			8.85	25			3.82	18	1.05	28	9.62	22	1.20	16	9.48	21	2.06	31	5.31	12	1.15	1
Totals	65.26	216			54.10	212			50.93	174			67.35	191			51.49	153			47.72	157		

Meteorological Returns.—The Hospital, Ystrad Rhondda. (Height above sea level, 590 feet).

MONTH.	1899.				1900.				1901.				1902.			
	Total Rainfall in month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.	Total Rainfall in month in inches.	Days on which .01 or more rain fell.	Greatest fall in 24 hours.	Date of Greatest Fall.
January	11.96	23	2.9	20	9.09	24	1.81	7	4.96	18	1.20	27	4.49	16	1.33	1
February	5.85	14	.91	12	11.07	18	3.20	16	1.64	9	.90	27	2.94	9	.90	22
March	3.23	9	2.3	25	1.02	7	.43	20	5.06	14	.90	30	4.35	13	.97	14
April	7.01	21	1.2	6	2.64	13	.50	4	7.45	16	1.00	8	3.23	10	.87	4
May	4.44	18	2.0	19	3.11	11	1.40	22	1.33	7	1.00	31	3.20	18	.52	27
June	.72	5	.40	20	3.95	15	1.00	25	3.42	10	1.60	21	4.07	18	.53	29
July	1.55	7	.90	1	1.23	11	.50	1	2.33	10	.60	26	2.87	9	1.20	26
August	1.32	7	.50	30	7.26	16	1.30	3	6.50	14	1.50	14	4.64	17	.87	5
September	2.68	18	.51	22	3.13	11	1.30	27	4.28	14	1.14	16	2.68	10	.65	23
October	6.54	14	1.5	30	10.25	20	1.90	5	3.38	18	.64	24	6.76	16	1.28	13
November	5.35	11	1.70	4	9.06	21	1.40	16	3.16	7	.91	11	5.60	16	1.25	8
December	4.36	17	1.20	29	11.98	23	1.50	31	11.62	29	1.84	7	6.69	14	1.24	16
Totals	55.01	164			73.79	190			55.13	157			51.52	166		

RESOLUTIONS ADOPTED AT A MEETING OF THE
INCORPORATED SOCIETY OF THE MEDICAL OFFICERS
OF HEALTH, HELD ON FEBRUARY 13TH, 1903.

1. "It is expedient, in the interests of children as well as of the community at large, that the present statutory enactments requiring the Vaccination of children in infancy should be maintained."

2. "That any relief from these requirements which Parliament, when considering the Vaccination Act, 1898, may see fit to give, should be given by an extension of the existing provisions of the law empowering magistrates to suspend Vaccination for a definite period, and not by unlimited exemption, as at present.

3. "That such postponement should not be for a longer period than four years, when the requirements of the law should automatically revive, subject to further postponement to the age of 12 years (or to an earlier age in case of prevalence in the neighbourhood of the child of epidemic Small-pox) in case of the renewed objection of the parent and that at this latter age all children who have not been vaccinated efficiently within five years shall be required to be vaccinated or re-vaccinated, as the case may be."

4. "That the Local Government Board should have the power, on the occurrence of Small-pox in any locality, to make an Order requiring the children residing therein to be re-vaccinated at an earlier age than the 12th year during such period as the Board may deem necessary.

5. That all persons who have been in contact with a case of Small-pox should be required to be vaccinated or re-vaccinated forthwith, if in the opinion of the Medical Officer of Health such vaccination or re-vaccination is necessary.

“Persons occupying the same ward in a workhouse or lodging in a common lodging-house in which a case of Small-pox occurs should be deemed to be in contact.”

6. “That the administration of the Vaccination Acts should be transferred from the poor Law Authorities to Sanitary Authorities and be administered

(a) As regards the Metropolis by the Councils of the Metropolitan Cities and Boroughs ;

(b) As regards County Boroughs by the Councils of such Boroughs ; and

(c) As regards the rest of England and Wales by the Councils of Administrative Counties provided that the Council of an Administrative County should be empowered to delegate any or all of the duties under the Acts to any or all of the Councils of the Sanitary Authorities within such Administrative County with power to revoke such delegation at any time.”

7. “That in the event of any of the aforesaid Councils failing to carry out the duties imposed upon them by the Acts the Local Government Board should undertake the duties and recover any expenses incurred from the Council making such default.”

8. “That Sanitary Authorities should be empowered to expend public funds in promoting vaccination and re-vaccination whenever their districts are visited by or threatened with Small-pox.”

9. ‘ That a minimum standard of vaccination and of re-vaccination should be prescribed by the Local Government

Board, such standard to state the number, area, and description of marks to be produced."

10. "That the Local Government Board should prescribe Forms of Certificate for vaccination and re-vaccination which when filled up, should state the results obtained as to the number, area, and description of marks produced."

11. "That every registered Medical Practitioner giving a certificate of vaccination or re-vaccination should do so by properly filling up the Form prescribed."

12. "That calf lymph, guaranteed by the Local Government Board, should be supplied on demand to every Registered Medical Practitioner."

13. "That stations for the preparation of vaccine should be established under Government supervision in the large provincial centres."

14. "That the tenure of office of all officials under the Vaccination Act should be on similar lines to those conditions under which Poor Law Medical Officers are appointed."

*A Copy of the Circular distributed throughout the infected areas
after the introduction of Small-pox into the district.*

SMALL-POX.

Owing to the existence and possible spread of Small-pox in the Rhondda, the Health Committee of the Rhondda Urban District has ordered the preparation and circulation of a few elementary statements concerning its mode of onset, its character, and its prevention.

INFECTIOUS CHARACTER.—Small-pox is an extremely infectious disease, and is easily conveyed from person to person, as well as by means of clothing and other articles which have been exposed to infection. A perfectly healthy person may thus be the means of conveying the disease to another person.

ONSET AND SYMPTOMS.—After exposure to infection, the disease does not at once manifest itself, but takes about 12 days to do so, during which the person who is about to suffer generally feels quite well. At the end of that time the disease more or less suddenly declares itself by the onset of severe headache, shivering, great pain in the back, and often vomiting.

Any person who is taken ill with all or any of these symptoms should at once send for a doctor.

PREVENTION.—The best way to ward off Small-pox is by vaccination or re-vaccination.

Even after exposure to infection, successful vaccination or re-vaccination, performed **without delay**, will most probably prevent an attack, but the longer the delay between the time

of exposure and the vaccination the less will be the influence of the operation as a preventive measure.

The character of the vaccination exercises a great influence upon the value of the measure, for the larger, the more numerous, and the more distinct the marks, the greater in proportion will be the beneficial influence of vaccination.

Parents should therefore take warning not to be satisfied with the **mere fact** that their children have been vaccinated; they should see that they are well and efficiently vaccinated, and each child should have at least **4** good marks.

It is very important to remember also that however successful the primary vaccination performed during infancy may have been its protective influence diminishes from year to year to such an extent that it is considered necessary for every person vaccinated in infancy to be re-vaccinated before reaching 15 years of age in order to secure a continuance of the protective power afforded by the operation when successfully performed.

As "one fact is worth a bushel of arguments," I give here an extract from a report of a special committee of the Metropolitan Asylum's Board (who control the Small-pox Hospitals in London):—

"The necessity of re-vaccination, when the protective power of the primary vaccination has to a great extent passed away, cannot be too strongly urged. No greater argument to prove the efficacy of this precaution can be adduced than the fact that out of upwards of 14,800 cases received into the hospitals, only four well-authenticated cases were treated in which re-vaccination had been properly performed, and these were very light attacks. Further conclusive evidence is afforded by the fact that all the nurses and the servants of the hospitals, to the number at one time of 300, who are hourly brought into the most intimate contact with the disease, who constantly breathe its atmosphere and than whom none can be more exposed to its contagion, have, with but few exceptions, enjoyed complete immunity from

its attacks. These exceptions were cases of nurses or servants whose re-vaccination in the pressure of the epidemic was overlooked, and who speedily took the disease; and one case was that of a nurse who, having had small-pox previously, was not re-vaccinated, and took the disease a second time."

An endless number of similar instances could be given.

PERSONS ENTITLED TO RECEIVE GRATUITOUS VACCINATION.—The following classes of persons are entitled to be vaccinated or re-vaccinated by a Public Vaccinator with Calf Lymph, and free of charge, viz:—

- (1) All un-vaccinated persons of whatever age.
- (2) All persons who have not been successfully vaccinated.
- (3) All persons of the age of ten or upwards, who have not been successfully vaccinated or re-vaccinated within a period of ten years.

RHONDDA PUBLIC VACCINATORS.—The names and addresses of the Public Vaccinators for the Rhondda Urban District are as under:—

<i>Dr. WARBURTON, Brynfedwen, Treherbert.</i>	<i>Dr. W. W. DAVID, The Surgery Tonypandy.</i>
<i>Dr. W. E. THOMAS, Llysygraig, Ystrad.</i>	<i>Dr. R. C. JOYCE, Glynrhondda Porth.</i>
	<i>Dr. T. W. PARRY, Ferndale.</i>

J. D. JENKINS, M.D., B.S. (Lond.) D.P.H.,
Medical Officer of Health to the Rhondda Urban District Council.

RHONDDA URBAN DISTRICT COUNCIL.

Surveyor's Report to the Scavenging Committee.

MR CHAIRMAN AND GENTLEMEN,—

In accordance with the Committee's instructions, the following particulars have been prepared as to the collection and disposal of house refuse in the Council's district.

1. The number of loads of house refuse collected and the horses and carts in use in each of the sections into which the district is divided for scavenging purposes has been obtained from the Sanitary Inspectors by your Medical Officer of Health.

This information, together with the present year's contract prices and number of houses in each section, I have tabulated for easier reference, and is given appended hereto as Table No. 1. This table also gives the average cost per load of ashes collected, the average cost of collection per house, and the number of houses per load of ashes collected in each scavenging-section.

The cost of collection per load and per house varies considerably in the different sections, and is due principally to the difference in the distance that the ashes have to be carted from the collecting areas to the scavenging tips.

The number of horses and carts engaged in the scavenging of the district is 61 horses and 53 carts; this in cost is practically equal to 57 horses and carts.

In 1894 the work was done by 27 horses and carts. The figures for this year, so far as obtainable, are given at the foot of Table No. 1.

There is no record as to the number of carts in use during the intervening years between 1894 and 1903.

2. Table No. 2 gives for the past ten years the annual cost of scavenging contracts for each of the several sections into which the Council's district has been divided during this period for scavenging purposes.

The numbers by which the scavenging sections are known have been changed from time to time during the ten years in consequence of the district being re-divided into a larger number of sections for scavenging purposes. This I have endeavoured to show as plainly as possible in the table, so that the contract prices of scavenging the various sections can be readily compared.

The situation of the scavenging tips and their distance from the areas of collection is also given for each section for the ten years.

3. **Scavenging Tips.**—BLAENRHONDDA Scavenging Tip is now used for the whole of Treherbert and Treorky down to the Tynybedw Colliery. The present tip is nearly full; but another site for a tip equally convenient has been obtained on a seven years' agreement, but terminable earlier if the tip is full. The new sight will probably last about six years for Treherbert district, but not half that time if also used for Treorky.

TREORKY.—There is no tip in this district at present, but if the Council succeed in the application made for a site on the Tyla-coch Colliery tips, Treorky would have a good tip that would last three or four years.

CWMPARK.—The tip for this section is situate near the upper end of Cwmpark, and is used with the consent of the agent of the Baglan Estate. There is no fixed term as to tenure but there is sufficient space here to last a few years.

PENTRE.—There is no tip in this place; the ashes are taken to the destructor. The site for a tip was obtained from the Taff Vale Railway Company situate alongside the railway immediately below the Tynybedw Colliery sidings. For the purpose of gaining access to this site it is necessary to construct a bridge over the river. This bridge would cross over parts of the Bailey and Bute Estates. Permission was obtained from the Bailey Estate, but the Council has not been able to obtain the consent of the Bute Estate to the construction of this bridge. A tip here would be a considerable saving in the cost of scavenging Pentre and lower part of Treorky.

TON.—There is no acknowledged tip at Ton; the tip named in the contract is the one at Partridge road. At present the Contractor is allowed to tip on the hillside near the Ton Colliery tips. The road to this is very steep, and requires two chain horses. The tip named in the contract is nearly full.

TREALAW.—This tip is situate on the side of Partridge road, and is used for Ystrad, Llwynypia, Tonypandy and Trealaw, and will be practically full by the end of the present Scavenging Contracts, in September next.

PENYGRAIG.—This tip is situate over the Ffrwdamos brook culvert, and will be filled up by the end of the present Scavenging Contracts. The culvert could be extended, and would give more tipping room.

TREBANOG.—This tip is situate on the Tynycymmer farm, a little below the Farmers' Arms. There is sufficient room here for some years, but the cartage to the tip is all uphill, and is very costly. The ashes from Porth, Hafod and Cymmer are taken to this tip.

PONTYGWAITH.—The tip here is situate near the new railway bridge leading to Llewelyn street. There is no agree.

ment as to tenure, but there is sufficient room to last a few years. The ashes from Ynyshir, Wattstown, Pontygwaith, Stanleytown, and the lower part of Tylorstown are taken to this tip.

TYLORSTOWN.—This tip is on the roadside between Tylorstown and Ferndale, and is used for the upper part of Tylorstown. This will probably last another year.

FERNDALE.—The tip in present contract is situate at the north end of Ferndale, on the Mardy road, and is used for Ferndale only. There is sufficient room for several years. Another and more central tip has been obtained from the Bailey Estate, subject to fencing around the same and building a river wall, if necessary, to prevent the foot of tip being washed by the river.

BLAENLLECHAU.—The ashes from this district are at present taken by the scavenger to his own land. This tip will possibly last as long as the work is done by the present contractor.

MARDY.—The ashes are at present tipped along the back of Oxford street and alongside of Station road. Negotiations are in progress for a site near Rowley terrace, that would last several years.

4. I have obtained prices as to the cost of scavenging carts and motor vans. Several makers of motors were written to, but only two of them were makers of motor vans suitable for this purpose. These motors were worked by steam power, and cost about £600 each.

A van, with steel dust body to hold seven cubic yards, interchangeable with a 750 gallon watering tank, is offered at £750 complete. This van could be used for collection of ashes, or, by changing the body, could be used for street watering.

5. The ordinary one-horse scavenging carts to carry from $1\frac{1}{2}$ to 2 cubic yards, and fitted with covers and brake, are offered at from £15 to £27 each. The higher priced carts are also fitted with mechanical tipping arrangement.

Four-wheel vans, to carry about $2\frac{1}{2}$ to 3 cubic yards, and fitted with covers, brake, and tipping arrangements, are offered at prices varying from £30 to £52.

6. In case the Council decide to purchase scavenging carts, there are in use with the present contractors 16 suitable scavenging carts, costing when new about £20 to £22 each. These could be taken over by the Council.

7. **Removal of Ashes by Rail**,—For the purpose of comparison, I submit the following estimate of cost of taking the scavenging ashes to some suitable site outside the district. The nearest place would probably be in the neighbourhood of Llantwit. The average distance by rail is $11\frac{1}{2}$ miles, and the ordinary rate for the cheaper class of traffic, with which ashes would probably be classed, is 1s 5d. per ton in owner's wagons.

The total quantity of ashes, if the whole is removed from the district, is about 220 tons per day. For this quantity we would probably get a reduced rate of say one shilling per ton.

The Initial cost would be for waggons, about £3000; tipping arrangements for filling waggons at six places, about £1,000, assuming that the existing sidings can be used, and land and sidings for tips about £1,000, making a total of £5,000.

The working cost, allowing five per cent. on the first two items for repairs, and six men for filling and tipping, would be twopence per ton; to this add railway rate one shilling, making a total of 1s. 2d. per ton.

8. Incline Tramways to Tips on the Hillsides.—
I estimate an incline 200 yards long, with rope and light
tubs at £260.

The comparative cost of incline, if worked by either steam,
electricity, or gas engine, I estimate as under :—

		For Steam Power.		Electric Motor.		Gas Engine.
Incline as above	...	£260	...	£260	...	£260
Engine and Shed	...	£250	...	£200	...	£250
Boiler and Shed	...	£150	...	—	...	—
Total	...	£660	...	£460	...	£510
Total for six Tips	...	£3960	...	£2760	...	£3060

In estimating the working cost, five per cent. on total
outlay is allowed for repairs, two men for working each
Incline, and an extra man for Steam Engine and Boiler, and
for Electric Motor or Gas Engine, one of the two men on
the Incline could attend to either of these.

The weekly cost then for working each Incline, by Steam
is £8, by Electric Motor, £7, and by a Gas Engine,
£4 16s. 0d.

This works out at per ton of ashes taken over an Incline,
if worked by Steam at 8·6 pence, by Electricity, at 7·6
pence, and by Gas at 5·2 pence.

The cost of Electric Power is based at two pence per unit,
and Gas at 3s. 9d. per 1,000 cubic feet.

If Electricity could be obtained at one penny per unit, the
cost of working Electric Motor would be reduced by two
pence per ton.

I am indebted to the Council's Gas and Water Engineer for the particulars as to cost of Gas Engine, and these figures show that Electricity must be supplied at three farthings per unit, to be cheaper than Gas at 3s. 9d. per 1,000 feet.

I remain, Gentlemen,

Yours obediently,

W. J. JONES,

ENGINEER AND SURVEYOR

Table 1.—RHONDDA URBAN DISTRICT COUNCIL.
Particulars of Scavenging Contracts for Year ending September, 1903.

Section No.	EXTENT OF SECTION.	Number of Tenements in Section.	Average Distance to Scavenging Tip.	Numbers employed on Scavenging			No. of loads per day.	Cost of present year's Scavenging.		No. of Houses to each Load of Refuse.	Cost per House.		Average cost per horse and cart used.	Average cost per load.	
				Carts	Horses.	Men.		£	s. d.		s.	d.		£	s. d.
1	Blaenrhondda, Blaenwern, and Tynnewydd	826	$\frac{1}{4}$ mile	2	2	2	8	£ 129	10 0	103	3 0	64 15 0	1 11	11	1
2	Treherbert to Ynyswen Schools	853	"	2	2	2	8	220	0 0	107	5 2	110 0 0	1 9	4	1
3a	Treerky to Glyncoly Road	853	"	4	4	4	8	434	3 0	107	10 2	108 10 9	3 3	5	3
3b	Treerky, Glyncoly Road to Tynybedw Colliery	615	"	3	3	3	7	352	13 6	88	11 5	117 11 2	3 3	2	3
4	Cwmpark	527	"	1	1	1	5	83	0 0	105	3 2	83 0 0	1 1	0	1
5	Pentre to Ystrad Station	1133	"	4	4	4	11	536	0 0	102	9 5	134 0 0	0 0	0	3
6	Ton and Gelly	1388	"	4	4	6	15	624	0 0	93	9 0	124 16 0	0 0	0	2
7	Ystrad, from Station to Pontrhondla	940	"	2	2	2	9½	215	15 0	99	4 7	107 17 6	1 1	2	1
8	Llwynypia and Tonypany	1277	"	4	4	4	12	469	10 0	106	7 4	117 7 7	1 2	6	5½
9	Clydach Vale	1542	"	3	3	3	12	336	9 6	128	4 4	112 3 2	0 0	0	1
10	Trealaw, from Pontrhondla to Cemetery	1145	"	2	2	2	6½	190	0 0	176	3 4	95 0 0	0 0	0	1
11	Penygraig and Williamstown	1414	"	2	2	2	11	219	2 0	129	3 1	109 11 0	0 0	0	1
12	Cymmer, Trebanog, and Dinas	1121	st. grd.	3	5	4	9	293	16 0	140	5 3	73 9 0	0 0	0	2
13	Porth and Hafod	1661	"	4	7	5	12	624	0 0	138	7 6	113 9 1	0 0	0	3
14	Tynnewydd, Ynysliu, and Wattstown	1074	"	5	5	5	10	600	0 0	107	11 2	102 10 0	0 0	0	3
15	Tylorstown, Pontygwaith, and Stanleytown	1270	"	2	2	2	17	205	0 0	75	3 3	93 12 0	0 0	0	10
16	Ferndale	1454	"	3	3	3	22	280	16 0	66	6 10	93 6 8	0 0	0	1
17	Blaenllechau	404	"	1	2	2	6	140	0 0	67	6 11	93 0 0	0 0	0	6
18	Mardy	814	"	2	2	2	12	180	0 0	68	4 5	90 0 0	0 0	0	11½
19	Gilfach Goch	56	"	Cleared per week.		3 days	1	31	10 0	88	11 3	94 10 0	0 0	0	2
Particulars for 1894		20367		53	61	57	202	£ 6165	5 0	100·8	6 0	108 3 3	1 11½		
		15,984		27				2515	6 0		3 2	93 3 2			

March, 1903.

W. J. JONES, Engineer and Surveyor.

RHONDDA URBAN DISTRICT COUNCIL.

Table No. 2

Statement showing Annual Cost (by Contracts) for Scavenging the several Sections of the Rhondda District, for the Ten Years ending September, 1903.

Section Number.	DESCRIPTION OF SECTION.	SITUATION OF SCAVENGING TIPS.	Years Tips were in use.	Average distance to Ash Tips.	AMOUNT OF SCAVENGING CONTRACTS FOR THE YEARS ENDING :—											
					Sept., 1894	Sept., 1895	Sept., 1896	Sept., 1897	Sept., 1898	Sept., 1899	Sept., 1900	Sept., 1901	Sept., 1902	Sept., 1903		
					£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.	Blaenrhondda, Blaenewm, and Tynewydd	Blaenewm, by Rhondda and Swansea Bay Railway Bridge	1894 to 1903	$\frac{1}{4}$ mile	120 0 0	100 0 0	99 0 0	90 0 0	100 0 0	98 0 0	96 5 0	89 18 0	109 10 0	129 10 0		
2.	Treherbert, from Tynewydd Level Crossing to Ynyswen Schools	Ynyswen and opposite Police Station, Treherbert	1894 to 1901	$\frac{1}{4}$ "	137 10 0	110 0 0	102 0 0	92 12 0	92 12 0	93 12 0	88 8 0	99 10 0				
3.	(1894 to 1896) Treorky, down to Tynybedw Colliery, including Cwmpark	Blaenewm, by Rhondda and Swansea Bay Railway Bridge	1901 to 1903	$\frac{1}{8}$ "	—	—	—	—	—	—	—	—	200 0 0	220 0 0		
3.	(1896 to 1903) "	Ynyswen	1894 to 1896	1 "	200 0 0	203 19 6	203 19 6	—	—	—	—	—				
			1896 to 1901	$\frac{3}{4}$ "	—	—	—	119 10 0	162 0 0	219 2 0	219 0 0	220 5 0				
4.	(1896 to 1903) Cwmpark	Blaenewm, by Rhondda and Swansea Bay Railway Bridge	1901 to 1903	$\frac{1}{2}$ "	—	—	—	—	—	—	—	—	793 0 0	835 13 6		
4.	(1894 to 1896) Pentre, from Tynybedw Colliery down to Ystrad Station	Cwmpark	1896 to 1903	$\frac{1}{4}$ "	—	—	—	48 0 0	74 19 0	75 0 0	73 16 0	78 0 0	97 0 0	83 0 0		
5.	(1896 to 1903) "	Pentre Flat	1894 to 1901	$\frac{1}{8}$ "	128 15 0	135 0 0	145 9 0	145 19 6	199 10 9	199 10 9	199 19 9	219 2 0				
5.	"	Refuse Destructor, Pentre	1901 to 1903	$\frac{1}{8}$ "	—	—	—	—	—	—	—	—				
5.	"	Gelly	1894 to 1896	$\frac{1}{2}$ "	130 0 0	165 0 0	200 0 0	—	—	—	—	—	576 0 0	536 0 0		
6.	"	Tyntila Road, Ystrad (by Parson's Level)	1896 to 1899	$\frac{1}{4}$ "	—	—	—	245 0 0	328 10 0	388 10 0	—	—				
		Near Setter's Bakery, Tyntila Rd., and Partridge Rd., Trealaw	1899 to 1902	$\frac{1}{4}$ "	—	—	—	—	—	—	458 10 0	480 10 0	494 0 0			
6.	"	Partridge Road, Trealaw	1902 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	—	624 0 0			
7.	"	Tyntila Road, Ystrad (by Parson's Level)	1894 to 1896	$\frac{1}{4}$ "	85 10 0	90 10 0	100 6 0	—	—	—	—	—				
		Tyntila Road, Ystrad (by Parson's Level)	1896 to 1899	$\frac{1}{4}$ "	—	—	—	110 0 0	135 0 0	155 0 0	—	—				
		Tyntila Road, near Setter's Bakery, and Partridge Road	1899 to 1902	1 "	—	—	—	—	—	—	219 10 0	219 0 0	219 10 0			
		Partridge Road, Trealaw	1902 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	—	215 0 0			
7.	(1894 to 1896) Llwynypia and Tonypandy (Pontrhondda to Nant Gwyn)	Partridge Road, Trealaw	1894 to 1903	$\frac{1}{4}$ "	343 4 0	344 6 0	281 14 0	290 0 0	314 6 0	328 14 0	328 13 0	359 19 0	406 18 0	469 10 0		
8.	(1896 to 1903) "															
8.	(1894 to 1896) Clydach Vale, including Court Street and Thomas Street	Court Street, at Bush Houses, and near Clydach Vale Colliery	1894 to 1903	$\frac{1}{2}$ "	172 3 0	195 0 0	281 14 0	280 0 0	273 17 6	258 4 6	253 9 6	310 0 0	320 0 0	336 9 6		
9.	(1896 to 1903) "	Offices														
9.	(1894 to 1896) Trealaw, from Pontrhondda to Cemetery Gates, Trealaw	Partridge Road, Trealaw	1894 to 1903	$\frac{1}{4}$ "	93 12 0	117 0 0	125 0 0	119 15 0	109 10 0	105 0 0	98 2 6	108 10 0	187 0 0	190 0 0		
10.	(1896 to 1903) "															
10.	"	West end of Dinas and Penygraig Football Field	1894 to 1896	$\frac{1}{4}$ "	176 0 0	195 0 0	189 4 0	—	—	—	—	—				
11.	"	Over Culvert, Ffrwdamos Brook, Penygraig	1896 to 1900	$\frac{1}{4}$ "	—	—	—	199 15 0	187 16 0	183 3 0	183 3 0	—				
		Ynyshir (Mr. Packer's Grounds)	1900 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	218 8 0	249 12 0	219 2 0		
11.	"	Ynyshir (Mr. Packer's Grounds) and West end of Dinas	1894 to 1896	1 "	110 0 0	140 0 0	124 11 0	—	—	—	—	—				
12.	"	Bedw Cymmer, and West end of Dinas	1896 to 1897	1 "	—	—	—	189 10 0	—	—	—	—				
		Trebannog, and by White Rock, Penygraig	1897 to 1900	$\frac{1}{4}$ "	—	—	—	—	187 4 0	171 0 0	179 8 0	—				
		Ynyshir (Mr. Packer's Grounds), and Hafod	1900 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	—				
12.	(1894 to 1896) Porth and Hafod	Ynyshir (Mr. Packer's Grounds), and Hafod	1894 to 1899	$\frac{1}{4}$ "	234 15 0	234 15 0	313 0 0	375 0 0	304 4 0	256 0 0	—	304 4 0	339 6 0	293 16 0		
13.	(1896 to 1903) "	Hafod	1899 to 1900	$\frac{1}{4}$ "	—	—	—	—	—	—	—	—				
		Hafod ashes to Hafod Tip; Eirw and Porth ashes to Trebannog	1900 to 1902	$\frac{1}{4}$ "	—	—	—	—	—	—	280 16 0	—				
		Trebannog	1902 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	611 0 0	820 0 0			
13.	(1894 to 1896) Tynewydd, Ynyshir, and Wattstown	Ynyshir and Wattstown	1894 to 1901	$\frac{1}{4}$ "	93 0 0	101 14 6	101 14 6	97 10 0	100 0 0	101 8 0	156 10 0	230 0 0		624 0 0		
14.	(1896 to 1903) "	Ynyshir	1901 to 1902	$\frac{1}{4}$ "	—	—	—	—	—	—	—	—				
		Pontygwaith	1902 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	280 0 0		600 0 0		
14.	(1894 to 1896) "															
15.	(1896 to 1903) Tylorstown, Pontygwaith, and Stanleytown	Upper end of Tylorstown and between Tylorstown and Pontygwaith near Railway Bridge, Pontygwaith	1894 to 1900	$\frac{1}{4}$ "	124 16 0	140 0 0	140 0 0	145 0 0	150 0 0	139 15 0	120 0 0	—				
		Between Ferndale and Tylorstown	1900 to 1903	$\frac{1}{4}$ "	—	—	—	—	—	—	—	205 0 0	200 0 0	205 0 0		
15.	(1894 to 1896) Ferndale and Blaenllechau	Mardy Road	1894 to 1900	$\frac{1}{4}$ "	266 1 0	300 0 0	300 0 0	266 1 0	313 0 0	290 0 0	334 0 0	—				
16.	(1896 to 1902) "		1900 to 1902	1 "	—	—	—	—	—	—	—	425 0 0	420 0 0			
		Mardy Road	1902 to 1903	$\frac{3}{4}$ "	—	—	—	—	—	—	—	—				
16.	(1902 to 1903) Ferndale	Blaenllechau	1902 to 1903	$\frac{1}{2}$ "	—	—	—	—	—	—	—	—		280 16 0		
17.	(1902 to 1903) "													140 0 0		
16.	(1894 to 1896) Mardy	Mardy	1894 to 1903	$\frac{3}{4}$ "	100 0 0	100 0 0	95 0 0	120 0 0	112 10 0	104 10 0	115 0 0	119 10 0	170 0 0	186 0 0		
17.	(1896 to 1902) "															
18.	(1902 to 1903) Gilfach-Goch	Gilfach Goch	1899 to 1903	$1\frac{1}{2}$ "	—	—	—	—	—	30 10 0	30 10 0	29 10 0	31 10 0	31 10 0		
19.	(1898 to 1902) "															
19.	(1902 to 1903) "															
Total					£ 2515 6 0	£ 2672 5 0	£ 2802 16 0	£ 2933 12 6	£ 3175 9 3	£ 3147 9 3	£ 3435 0 0	£ 4327 16 0	£ 5913 6 0	£ 6165 5 0		

March 1903

W. J. JONES, Surveyor and Engineer.

